

## Cumulative Assessment

### 9

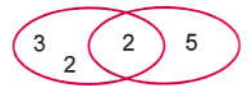
### Till lessons (1 & 2) unit 3

#### 1. Choose the correct answer.

- a. In the algebraic expression :  $5x - 4 + 5m + 3$  , the two like terms are \_\_\_\_\_  
 A. 3 and 5 m      B.  $5x$  and 5 m      C. 3 and  $-4$       D.  $5x$  and 3
- b. All the following are integers except \_\_\_\_\_  
 A.  $-4$       B.  $\frac{10}{5}$       C.  $\frac{13}{5}$       D.  $\frac{0}{5}$
- c. The number of terms of the expression :  $5 - 2m - 3m + 4$  is \_\_\_\_\_ terms.  
 A. 5      B.  $-2$       C.  $-3$       D. 4
- d. The coefficient in the algebraic expression :  $4x - 3$  is \_\_\_\_\_  
 A. 4      B.  $4x$       C.  $-3$       D.  $x - 3$
- e. If the price of 12 pens of same kind is 414 L.E. , then the price of each one is \_\_\_\_\_ L.E.  
 A. 35.4      B. 426      C. 34.5      D. 34

#### 2. Complete the following.

- a. In the opposite Venn diagram  
 the G.C.F is \_\_\_\_\_
- b. The constant in the expression  $3y + 2x - 5$  is \_\_\_\_\_
- c. The number of terms of the expression :  $3 + 4z$  is \_\_\_\_\_
- d.  $18 + 12 = 6(\text{_____} + 2)$
- e. The smallest counting number is \_\_\_\_\_
- f. The opposite of  $|-4|$  is \_\_\_\_\_



#### 3. Write [numerical expression or algebraic expression] for each of the following :

- |                 |         |                      |         |
|-----------------|---------|----------------------|---------|
| a. $5(3 + 4)$   | [_____] | b. $2m - 3$          | [_____] |
| c. $5 - x + 3y$ | [_____] | d. $4 + (5 - 3) + 1$ | [_____] |

#### 4. Order from greatest to least.

$$-\frac{7}{10}, \frac{3}{5}, 0.4, -\frac{4}{5}, \text{zero}$$

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1. Complete the following.

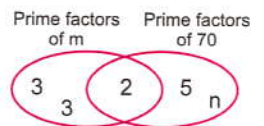
- a. The verbal expression for " $2m - 7$ " is \_\_\_\_\_
- b. The number of integers between 4 and its opposite is \_\_\_\_\_ integers.
- c. The algebraic expression for "a number less 7" is \_\_\_\_\_
- d.  $|-4| + |-7| =$  \_\_\_\_\_
- e. Ramy works  $x$  hours daily, then the algebraic expression for the number of worked hours monthly is \_\_\_\_\_

2. Choose the correct answer.

- a. Twice the difference of a number and 5 is \_\_\_\_\_  
 A.  $2y + 5$       B.  $2y - 5$       C.  $2(y + 5)$       D.  $2(y - 5)$
- b. Laila saved  $n$  L.E. and her mother gave her 5 L.E., she will have \_\_\_\_\_ L.E.  
 A.  $n - 5$       B.  $n + 5$       C.  $5n$       D.  $5 - n$
- c. Which of the following are like terms?  
 A.  $3x, 3y$       B.  $xy, yz$       C.  $31x, 13x$       D.  $x, y$
- d. The distance between the opposite of 3 and 0 on the number line is \_\_\_\_\_ unit[s]  
 A. 3      B. -3      C. 0      D. 6
- e. The rational number between 0.3 and 0.4 is \_\_\_\_\_  
 A. 0.2      B. 0.42      C. 0.32      D. 0.432
- f. Eslam is  $x$  years old now, how old will he be after 6 years?  
 A.  $x \div 6$       B.  $6x$       C.  $6 + x$       D.  $x - 6$

3. From the opposite Venn diagram, complete:

- a. The value of  $m$  is \_\_\_\_\_
- b. The value of  $n$  is \_\_\_\_\_
- c. G.C.F is \_\_\_\_\_
- d. L.C.M. is \_\_\_\_\_



4. Ahmed ate  $x$  sandwiches and his father ate 6 sandwiches. If the price of each sandwich is 5 L.E., write the algebraic expression to find the cost of all sandwiches.

## Cumulative Assessment

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Till lessons (4 to 6) unit 3

## 1. Choose the correct answer.

- a.  $5 \times 5 \times 5 \times 5 =$  \_\_\_\_\_  
 A.  $5 \times 4$       B.  $5^4$       C.  $4^5$       D. 20
- b. The value of the expression  $x + 3^2$  for  $x = 1$  is \_\_\_\_\_  
 A. 7      B. 16      C. 10      D.  $3 + 1^2$
- c. Which of the following is the greatest number?  
 A. -1      B. -2      C. -3      D. -4
- d. The coefficient of the algebraic expression  $4y - 3^2$  is \_\_\_\_\_  
 A. 4      B.  $y$       C. 3      D. 2
- e. Two cubed subtracted from five squared = \_\_\_\_\_  
 A.  $2 \times 3 + 5 \times 5$       B.  $2^5 - 3^2$       C.  $5^2 - 3^2$       D.  $5^2 - 2^3$

## 2. Complete the following.

- a. The first operation in the numerical expression :  $4 + 3 \div (5 - 1^2)$  is \_\_\_\_\_
- b.  $13 - 7 + 2^3 \times 3^2 =$  \_\_\_\_\_
- c. The two like algebraic terms  $5 - 4x + 7^2$  are \_\_\_\_\_
- d. The best subset for the number 0 is \_\_\_\_\_ number.
- e.  $2,310 \div 24 = 96 \text{ R} \text{_____}$

3. a. Evaluate the algebraic expression :  $34 + b(4^2 \div 2)$  at  $b = 6$ 

\_\_\_\_\_

b. Use the order of operations and exponent to simplify :  $(17 - 11) + 3 \times 2^4 \div 2^3$ 

\_\_\_\_\_

\_\_\_\_\_

## 4. If the ticket of entering a car park is 30 L.E. and 7 L.E. for each hour you spend.

- a. Write an algebraic expression to represent the relation between total cost and the number of hours.

\_\_\_\_\_

- b. What the cost of spending 4 hours in the park ?

\_\_\_\_\_

1. Complete the following.

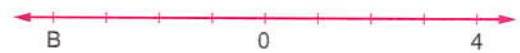
- a. Five squared = \_\_\_\_\_
- b. In the algebraic expression :  $5x - 3y^2 + 4$ , the constant is \_\_\_\_\_
- c. The G.C.F of 12 and 9 is \_\_\_\_\_
- d. The verbal form of the expression :  $k - 5$  is \_\_\_\_\_
- e. The value of the expression :  $4(3x + 1)$  at  $x = 1$  is \_\_\_\_\_

2. Choose the correct answer.

- a. The like terms in the expression :  $2x + 3x + 3$  are \_\_\_\_\_

A. 2 and 3      B.  $2x$  and  $3x$       C.  $3x$  and 3      D.  $2x$  and 3

- b. In the opposite number line, the integer which represents B is \_\_\_\_\_



A. 4      B. -4      C. 3      D. -3

- c.  $|-3\frac{1}{2}|$  \_\_\_\_\_  $\frac{7}{2}$

A. >      B. <      C. =

- d.  $1,111 \div 17 =$  \_\_\_\_\_

A. 6 R 17      B. 65 R 17      C. 6 R 6      D. 65 R 6

- e.  $|-9| <$  \_\_\_\_\_

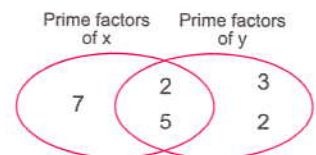
A. -8      B. 0      C. 9      D. 10

3. Examine these two expression and determine whether they are equal. If so, consider whether they are always equal. Complete each task.  $2(x + 1)$  and  $2x + 2$

- a. Try to find a value of  $x$  that will make these expressions equal.
- b. Try to find a value for  $x$  that will make the expressions not equal.
- c. Decide if these two expressions are always equal and if they should be considered equivalent expressions.

4. From the opposite Venn diagram :

- a. The value of  $x$  is \_\_\_\_\_
- b. The value of  $y$  is \_\_\_\_\_
- c. The G.C.F is \_\_\_\_\_
- d. The L.C.M is \_\_\_\_\_



### 1. Choose the correct answer.

- a. If  $x - 2 = 7$ , then  $x =$  \_\_\_\_\_  
 A. 5                      B. 9                      C. 14                      D. 3.5
- b. Ayman bought 3 pens for  $x$  L.E. each and he paid 18 L.E. , then  $x =$  \_\_\_\_\_ L.E.  
 A. 54                      B. 6                      C. 21                      D. 15
- c.  $20 + 25 = 5$  ( \_\_\_\_\_ + 5)  
 A. 4                      B. 5                      C. 20                      D. 25
- d. The algebraic expression of "subtract 3 from  $k$ " is \_\_\_\_\_  
 A.  $3 - k$                       B.  $k - 3$                       C.  $k + 3$                       D.  $3k$
- e. If the product of  $x$  and 5 is 45 , then  $x$  equals \_\_\_\_\_  
 A.  $45 \times 5$                       B.  $45 + 5$                       C.  $45 - 5$                       D.  $45 \div 5$
- f. If the equation :  $x - 3 = 1$ , then  $\frac{1}{2}x =$  \_\_\_\_\_  
 A. 1                      B. 2                      C. 3                      D. 4

### 2. Complete the following.

- a. The smallest non-negative rational number is \_\_\_\_\_
- b. If  $4x = 20$ , then  $5x =$  \_\_\_\_\_
- c. The opposite of  $-3\frac{1}{2}$  is \_\_\_\_\_
- d. The L.C.M of 4 and 2 is \_\_\_\_\_
- e. In the equation :  $2,270 \div 4 = 567 R 2$ , the dividend is \_\_\_\_\_
- f. The coefficient in the algebraic expression :  $5x + 3$  is \_\_\_\_\_

### 3. Solve each of the following equations :

a.  $x + 5 = 17$

\_\_\_\_\_

b.  $x - 7 = 15$

\_\_\_\_\_

c.  $9x = 63$

\_\_\_\_\_

d.  $\frac{y}{4} = 7$

\_\_\_\_\_

### 4. Use the order of mathematical operations to simplify.

$$5(3^2 - 1) + 8 \div (6 - 4)$$

\_\_\_\_\_

\_\_\_\_\_

## 1. Complete the following.

- The number of integers between  $-2$  and  $4$  is \_\_\_\_\_
- The smallest counting number is \_\_\_\_\_
- Nader saved  $x$  L.E. and his father gave him  $6$  L.E., he will have \_\_\_\_\_
- The smallest solution of the inequality  $k \geq -3$  is \_\_\_\_\_
- The verbal expression for " $3x + 1$ " is \_\_\_\_\_

## 2. Choose the correct answer.

- \_\_\_\_\_ is a solution of  $x < -1$   
 A. 0                      B. 1                      C.  $-2$                       D. 3
- All of the following are a solution of the inequality  $x > 3$  except \_\_\_\_\_  
 A.  $|-4|$                       B.  $-3$                       C.  $4$                       D.  $5$
- If  $3x = 0$ , then  $\frac{1}{2}x =$  \_\_\_\_\_  
 A.  $3$                       B.  $1\frac{1}{2}$                       C.  $0$                       D.  $-3$
- The distance between  $0$  and  $-2$  on the number line is \_\_\_\_\_ unit[s].  
 A.  $0$                       B.  $2$                       C.  $4$                       D.  $-2$
- The rational number between  $1\frac{1}{2}$  and  $1\frac{1}{3}$  is \_\_\_\_\_  
 A.  $\frac{5}{12}$                       B.  $2\frac{5}{12}$                       C.  $1\frac{5}{12}$                       D.  $1\frac{3}{6}$
- Youssef can read more than  $10$  books monthly. Which inequality represent the number of books that Youssef read monthly?  
 A.  $x > 10$                       B.  $x < 10$                       C.  $x \leq 10$                       D.  $x = 10$

## 3. Name 2 solutions of each inequality.

a.  $x > 4$

\_\_\_\_\_

c.  $x < 0$

\_\_\_\_\_

b.  $x \leq -1$

\_\_\_\_\_

d.  $x \geq 5$

\_\_\_\_\_

4. A hotel consists of
- $180$
- rooms divided into some equal floors. Every floor has
- $15$
- rooms. Find the number of floors.

\_\_\_\_\_

\_\_\_\_\_

### 1. Choose the correct answer.

- a. The algebraic equation of "9 more than a equals b" is \_\_\_\_\_  
 A.  $b = a - 9$       B.  $a + 9 = b$       C.  $b = 9a$       D.  $b = \frac{a}{9}$
- b. If  $x + 4 = 7$ , then  $\frac{1}{3}x =$  \_\_\_\_\_  
 A. 1      B. 4      C. 3      D. 9
- c.  $44,415 \div 45 = 987 \text{ R} \_\_\_\_\_\_$   
 A. 3      B. 2      C. 1      D. 0
- d. "4 times x add to 3 equals k" in equation is \_\_\_\_\_  
 A.  $3x + 4 = k$       B.  $4x = k + 3$       C.  $4k + 3 = x$       D.  $4x + 3 = k$
- e. The dependent variable in the algebraic equation :  $3m + 1 = n$  is \_\_\_\_\_  
 A. 3      B. m      C. 1      D. n
- f. The word phrase for the equation " $l = 4z$ " is \_\_\_\_\_  
 A. l equals 4 increased by z      B. l equals 4 times by z  
 C. l equals 4 less than by z      D. l equals 4 decreased by z

### 2. Write the verbal phrase for each of the following equations.

a.  $y = 3x + 1$

\_\_\_\_\_

b.  $y + 2 = x$

\_\_\_\_\_

### 3. Solve each of the following :

a.  $x - 4 = |-2|$

\_\_\_\_\_

b.  $x \div 5 = 7$

\_\_\_\_\_

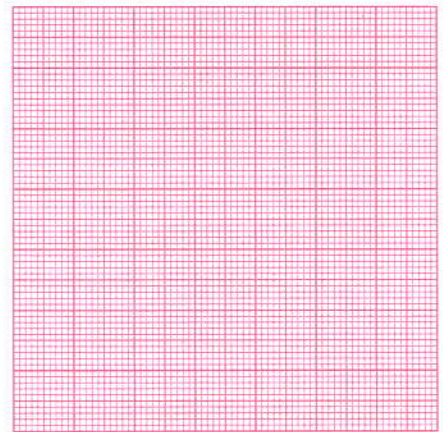
1. Complete the following.

- a. The ordered pair which satisfies the rule :  $y = x + 3$  is (1, \_\_\_\_\_)
- b.  $4^2 - 3 \times 1 + 5 =$  \_\_\_\_\_
- c. In the rule :  $y = 4x$ , if  $x = 1.3$  m, then  $y =$  \_\_\_\_\_
- d. If  $\frac{x}{2} = 3$ , then  $3x =$  \_\_\_\_\_
- e. "10 less a number" written as \_\_\_\_\_
- f. The best subset of 3 is \_\_\_\_\_ numbers.

2. Complete the table which satisfies the equation :

$y = 3x + 1$  and represent it

x	0	1	2
y			
(x, y)			



3. Examine these two expressions and determine whether they are equal. If so , consider whether they are always equal. Complete each task.  $2(x + 1)$  and  $2x + 1$  use  $x = 1, 2, 3, \dots$

- a. Try to find a value of  $x$  that will make these expressions equal.
- b. Try to find a value for  $x$  that will make the expressions not equal.
- c. Decide if these two expressions are always equal and if they should be considered equivalent expressions.



**November Test 1**

Total mark  
**15**

(5 marks)

**1. Choose the correct answer.**

- a. If  $x + 3 = 5$ , then  $4x =$  \_\_\_\_\_  
 A. 2                      B. 4                      C. 8                      D. 32
- b. The value of the expression  $4n - 5$  if  $n = 2$  is \_\_\_\_\_  
 A. 1                      B. 3                      C. 37                      D. 12
- c. In the equation:  $4a + 9 = m$ , then independent variable is \_\_\_\_\_  
 A. 4                      B. a                      C. 9                      D. m
- d. The algebraic expression "add 3 to the product of 5 and  $x$ " is \_\_\_\_\_  
 A.  $3 + x$                       B.  $5x + 3$                       C.  $3x + 5$                       D.  $35 + x$
- e. All the following are solutions of the inequality  $x < 0$  except \_\_\_\_\_  
 A.  $-1$                       B.  $-|-3|$                       C.  $|-4|$                       D.  $-5$

**2. Complete the following.**

(5 marks)

- a. The verbal expression of " $2x - 5$ " is \_\_\_\_\_
- b. In the algebraic expression:  $5x + 3y + 2$ , then constant is \_\_\_\_\_
- c. The smallest solution of the inequality  $x \geq 5$  is \_\_\_\_\_
- d. The ordered pair  $(4, \text{_____})$  satisfies the algebraic equation:  $y = \frac{1}{2}x + 1$
- e. The like terms in the algebraic expression:  $2x + 3 + 5x$  are \_\_\_\_\_

**3. a. Use order of operations and exponent to simplify:  $2 \times 5 + (6^2 - 24 \div 2)$**

(3 marks)

\_\_\_\_\_

\_\_\_\_\_

**b. Write an equation. Use the variables  $x$  and  $y$ , where  $x$  is the independent.**

Using the rule "Add 3", then substitute  $x = \frac{1}{2}$  to evaluate  $y$

(2 marks)

\_\_\_\_\_

\_\_\_\_\_

November Test **2**

(5 marks)

**1. Choose the correct answer.**

- a. "k equals the product of l and 8" as an equation is \_\_\_\_\_  
 A.  $k = 8l$       B.  $k = 8 + l$       C.  $l = 8k$       D.  $l = 8 + k$
- b. The cube of 6 equals \_\_\_\_\_  
 A.  $3 \times 6$       B.  $6 + 3$       C.  $6^3$       D.  $3^6$
- c. If  $3x = 27$ , then  $x =$  \_\_\_\_\_  
 A.  $27 + 3$       B.  $27 - 3$       C.  $27 \times 3$       D.  $27 \div 3$
- d. In the rule  $y = x + 4$ , if  $x = 1$ , then  $y$  would be \_\_\_\_\_  
 A. 3      B. 5      C. 4      D. 2
- e. In the algebraic expression:  $5x + 3$ , the coefficient is \_\_\_\_\_  
 A. 5      B.  $5x$       C. 3      D.  $x + 3$

**2. Complete the following.**

(5 marks)

- a. If  $x + 3 = 10$ , then  $x + 2 =$  \_\_\_\_\_
- b. In the rule:  $5x + 1 = y$ , then dependent variable is \_\_\_\_\_
- c. The verbal expression of " $x + 10$ " is \_\_\_\_\_
- d. The ordered pair (\_\_\_\_\_, 2) satisfies the algebraic equation:  $y = x + 1$
- e. In the algebraic expression:  $4x + 3$ , the variable is \_\_\_\_\_

**3. a. Examine these two expressions:  $3(x + 1)$  and  $2x + x + 3$** 

(2 marks)

1. Try to find a value of  $x$  that will make these expressions equal.
2. Decide if these two expressions are always equal and if they should be considered equivalent expressions.

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**b. Find three solutions for the inequality:  $x \leq -1$** 

(3 marks)

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#### 1 Complete following:

- a The algebraic factor in the term " $2.5x$ " is .....
- b The coefficient in the algebraic term  $3 \times y$  is .....
- c The number of terms in the algebraic expression  $3 \times y - 25$  is .....
- d Like terms in the algebraic expression  $6x + 6y + 2x + 6$  are .....
- e The constant in the algebraic expression  $5b + 3.2$  is .....

#### 2 Choose the correct answer:

- a Like terms in the algebraic expression  $2a + 3ab + 3$  are .....  
( $2a, 3ab$  or  $3ab, 3$  or  $2a, 3$  or none)
- b The coefficients in the algebraic expression " $5a + 3b + 8 - 2.5$ " are .....  
( $5, 3$  or  $8, 2.5$  or  $5a, 3b$  or  $5, 3, 8, 2.5$ )
- c Ahmed and Tamer have 60 pounds, if what Ahmed has is  $x$  pounds, then what Tamer has is ..... pounds. ( $60 + x$  or  $60 - x$  or  $60x$  or  $60 + x$ )
- d The number of terms of the algebraic expression  $2.5x + 2xy - 4$  is....  
( $3$  or  $4$  or  $5$  or  $6$ )
- e Constants in the algebraic expression:  $5a + \frac{2}{3} - 2b + 4$  are .....  
( $5, 2$  or  $\frac{2}{3}, 4$  or  $5, \frac{2}{3}$  or  $2, 4$ )

#### 3 Complete using the mathematical expression

" $5x + 2y + 6x + 3$ ":

- a The number of terms of a mathematical expression is .....
- b Like terms are .....
- c Coefficients are .....
- d Constants are .....

## 1 Complete the following:

- a The verbal form for the algebraic expression  $\frac{a}{5} + 3$  is .....
- b The verbal form for the algebraic expression  $6m$  is .....
- c The value that expresses the verbal form "three times b" is .....
- d Ahmed is now "y" years old. How old was he 3 years ago? .....
- e Ahmed shared a pizza pie equally with 4 of his friends, each of whom had their share of the pizza is (.....).

## 2 Choose the correct answer:

- a The number "m" plus 18 and the result divided by 3 = .....  
 $(3 \div (m + 18))$  or  $(m + 18) \div 3$  or  $\frac{m}{3} + 18$  or  $m + \frac{18}{3}$
- b If "b" is an integer, then the integer immediately next to it is .....  
 $(b + 1)$  or  $b - 1$  or  $2b$  or  $\frac{b}{2}$
- c A square of side length "s" cm has a perimeter of ..... cm  
 $(s + 4)$  or  $s - 4$  or  $\frac{s}{4}$  or  $4s$
- d Two numbers whose sum is 35 and one of them is "w", then the other number is .....  
 $(w + 35)$  or  $w - 35$  or  $35 - w$  or  $35w$
- e The price of a kilogram of meat increased by 120 pounds. If its price becomes "x" after the increase, then its price before the increment is .....  
 $(x + 120)$  or  $x - 120$  or  $12 - x$  or  $120x$

## 3 Bassem runs one kilometer in 15 minutes.

Write a mathematical expression that expresses the number of kilometers that Bassem runs in "t" minutes.

.....

1 Choose the correct answer:

a  $3^2 = \dots\dots\dots$

(3 + 3 or 2 + 2 + 2 or 3 × 3 or 3 × 2)

b  $3^{\dots\dots} = 3$

(0 or 1 or 3 or 10)

c  $4^2$    $2^4$

(< or = or > or ≤)

d  $5^2 + 2^2 \times 10^2 = \dots\dots\dots$

(425 or 2,900 or 129 or 410)

e  $(3^3 - 3^2) + 3^2 = \dots\dots\dots$

(26 or 9 or 0.5 or 2)

2 Complete the following:

a  $5^{\dots\dots} = 1$

b  $7^{\dots\dots} = 7$

c  $2^{\dots\dots} = 8$

d  $3 \times 3 \times 3 \times 3 \times 3 = 3^{\dots\dots}$

e  $6^2 \div 3^2 \times 2 = \dots\dots\dots$

3 Follow the order of performing operations, then find the value of each of the following:

a  $(15 - 9) + 3 \times 4^2 \div 2$   
 = .....  
 = .....  
 = .....

b  $8 + 2 \times (6 - 2) \div 2^3$   
 = .....  
 = .....  
 = .....

c  $[3^2 \times (8 - 5)] + 3$   
 = .....  
 = .....  
 = .....

d  $5^2 + (48 \div 2^3) - 15$   
 = .....  
 = .....  
 = .....

1 Choose the correct answer:

a If the price of one shirt is 120 Egyptian pounds, then the price of "m" number of shirts is .....

( 120 m  120 ÷ m  120 + m  120 - m )

b If Hanan saves "d" pound daily for 5 days, then her father gives her 20 pounds, then the amount that Hanan has now is .....

( 5 + 20d  20 - 5d  5d + 20  5 × ( d + 20 ) )

c The value of the expression  $a^2 + 2 \times 3$  when  $a = 3$  is .....

( 15  33  12  24 )

d The value of the expression  $12 + ( 16 - 3b )$  when  $b = 4$  is .....

( 4  3  26  10 )

e Which of the following order of operations is used to find the value of the expression  $8 + 2 \times ( n^2 - 3 )$ , when  $n = 5$

( Putting the exponent in its simplest form, subtraction, multiplication, addition

Addition, multiplication, exponentiation in simplest form, subtraction

Putting the exponent in its simplest form, addition, subtraction, multiplication

Putting the exponent in its simplest form, multiplication, addition, subtraction)

1 Choose the correct answer:

- a If  $a + 8 = 15$ , then  $a =$  ..... ( 7 or 15 or 8 or 23 )
- b If  $b = 6$ , then  $b -$  ..... = 4. ( 10 or 4 or 2 or 6 )
- c If  $6x = 42$ , then  $x =$  ..... ( 38 or 42 or 7 or 48 )
- d If  $y = 27$ , then  $\frac{y}{\text{.....}} = 9$ . ( 18 or 3 or 27 or 9 )
- e If  $4n = 12$ , then  $6n =$  ..... ( 4 or 12 or 18 or 3 )

2 Write the equation that represents each of the following models, and then find the value of "x":

a



Equation: .....

$x =$  .....

b



Equation: .....

$x =$  .....

3 Find the value of the variable in each of the following equations (solve the equation):

a  $x + 2 = 7$

= .....

= .....

b  $y - 3 = 8$

= .....

= .....

c  $3a = 21$

= .....

= .....

d  $\frac{n}{5} = 35$

= .....

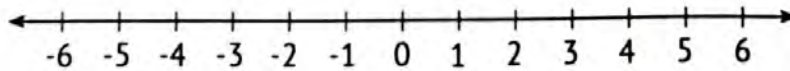
= .....

1 Choose the correct answer:

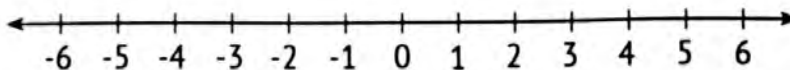
- a The inequality representing the statement "All values greater than  $-5$  are .....".  
(  $x > -5$  or  $x < -5$  or  $x \leq -5$  or  $x \geq -5$  )
- b The statement that represents the inequality  $x < 3$  is: All values .....  $3$   
(greater than or less than or greater than or equal to, less than or equal to)
- c The inequality that represents the statement "All values to the right of  $0$  on a number line are .....".  
(  $x > 0$  or  $x < 0$  or  $x \leq 0$  or  $x \geq 0$  )
- d Which of the following values is a solution to the inequality  $x < -2$ ?  
(  $0$  or  $1.5$  or  $-3$  or  $-2$  )
- e Which of the following values is not a solution to the inequality  $x > -1$ ?  
(  $1$  or  $0$  or  $-2$  or  $-0.5$  )

2 Represent each of the following inequalities on a number line  
( Where  $x$  is an integer ):

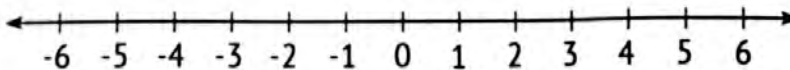
a  $x > -4$



b  $x \leq 0$

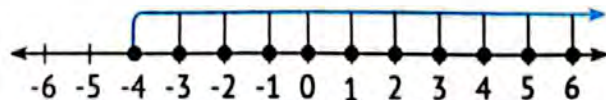


c  $x \geq 1$

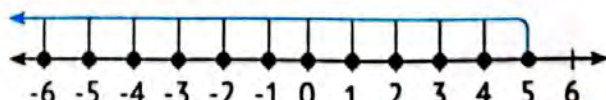


3 Write the inequality represented by each of the following number lines:

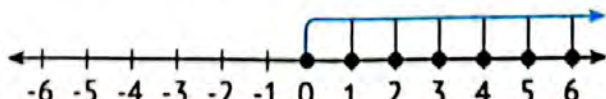
a .....



b .....



c .....





1 Choose the correct answer:

- a In " $u = 3 \div w$ ", the independent variable is ..... ( w or u or 3 or  $\frac{w}{3}$  )
- b In " $a = 5 d$ ", the dependent variable is ..... ( 5 or a or d or  $5d$  )
- c If the amount of fuel consumed by the car depends on the distance traveled, then The independent variable is .....
- ( fuel amount or distance traveled or traveled time or temperature )
- d If the independent variable is the area of the school theater, then the dependent variable is .....
- ( the number of actors participating in the show  
or the number of seats the theater can accommodate  
or the number of teachers supervising the show  
or the duration of the show in minutes )
- e If the dependent variable is the student's score in the exam, then the independent variable is .....
- ( the type of pen used in the solution or the age of the student  
or the number of correct answers or the number of questions in the exam )

2 Diaa saves 150 pounds every month, so if the amount he saves in ( $x$ ) month is ( $y$ ) pounds, then

- a The equation that represents this situation is .....
- b The independent variable is ..... The dependent variable is .....
- c What Diaa saves in a year is .....

1 Choose the correct answer:

a The equation that expresses the relationship "add 4" is .....

(  $y = x + 4$  or  $y = 4 - x$  or  $y + x = 4$  or  $y = 4x$  )

b The relationship that expresses the equation " $y = 5x$ " is: .....

( add 5 or multiply by 5 or divide by 5 or subtract 5 )

c If  $y = 2(x + 4)$ ,  $x = 5$ , then  $y =$  ..... ( 11 or 29 or 18 or 14 )

d The equation that expresses the relationship "divide by 2 then add 5" is: .....

(  $y = 2x + 5$  or  $y = \frac{1}{2}x + 5$  or  $y = \frac{x + 5}{2}$  or  $y = \frac{1}{5}x + 2$  )

2 Complete the following table:

	Relationship	Equation	Independent Variable	Dependent Variable	Input $x$	Output $y$
a	Add 4, then divide by 3				5	
b	Divide by 2, then subtract 1				8	
c		$y = (x - 5) \times 2$			7	
d		$y = 3x + 4$				16

3 Use the equation " $y = 2x + 3$ " and complete the following table:

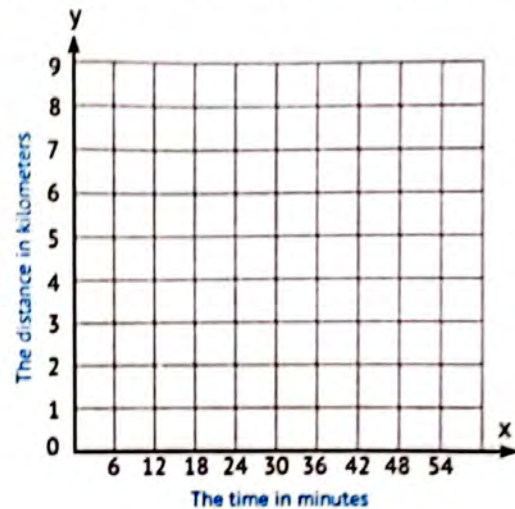
X	2	5	.....	.....	9	.....	3	8	.....
Y	.....	.....	15	17	.....	5	.....	.....	11

- 1 A cyclist on one wheel travels two kilometers in 12 minutes. Complete the following table, where the variable " $x$ " represents the time in minutes, and the variable " $y$ " represents the distance in kilometers.

$x$	6	12	.....	.....
$y$	.....	.....	3	4

The equation

.....



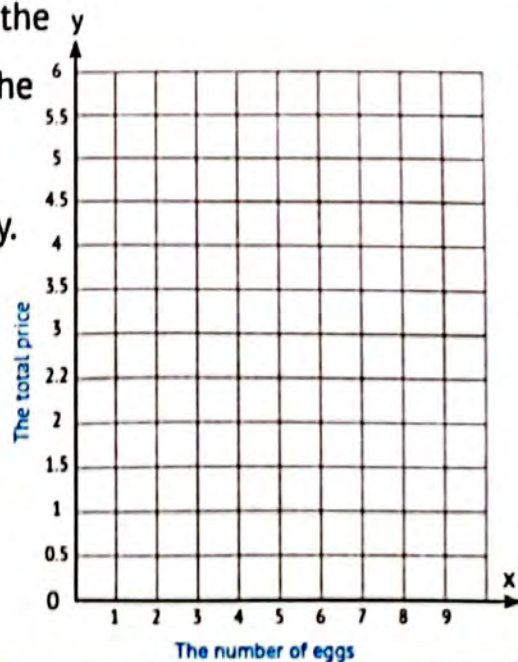
- 2 Hossam buys 4 eggs for 6 pounds.

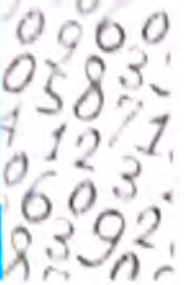
Complete the following table, where the variable " $x$ " represents the number of eggs, and the variable " $y$ " represents the total price. Write an equation showing the relationship between the variables " $x$ " and " $y$ ", and then represent it graphically.

$x$	1	2	3	4
$y$	.....	.....	.....	.....

The equation

.....





**First:** Choose the correct answer:

- a The algebraic term "5ab" is from ..... factors. ( 1 or 2 or 3 or 4 )
- b The number of terms that makes up the algebraic expression " $3xy + 2x - 5$ " is ..... term. ( 2 or 3 or 4 or 5 )
- c The absolute term in " $3m + 2$ " is ..... . ( 2 or 3 or m or 3m )
- d Subtracting the number 3 from twice the number  $y =$  ..... .  
( 3 - 2y or 2(y - 3) or 3y - 2 or 2y - 3 )
- e Samah is now 25 years old. How old was she  $h$  years ago?  
( 25 - h or h - 25 or 25 - h or 25h )
- f  $5 \times 5 \times 5 =$  ..... ( 5 x 3 or  $5^3$  or  $3^5$  or 5 + 3 )
- g  $3^2 + 4$  .....  $9 + 2^2$  ( > or = or < or  $\leq$  )
- h If the price of one book is 15 pounds, what is the price of  $b$  number of books?  
( 15 b or 15 - b or b - 15 or b + 15 )
- i The value of  $(12 - x^3) + 2$  if  $x = 2$  is ..... . ( 8 or 10 or 2 or 6 )
- j The order that is used to find the value of  $2 + 3(m^2 - 5)$  if  $m = 3$  is ..... .  
( putting exponents in their simplest form, subtraction, multiplication, addition  
or addition, exponents, subtraction, multiplication  
or putting the exponents in the simplest form, addition, subtraction, multiplication  
or multiplication, addition, exponents in simplest form, subtraction )

**Second:** Complete the following:

- a If the sum of two integers is 5 and one of them is 10, then the other number is .....
- b In  $7xy$ , the coefficient is .....
- c Like terms for " $3n + 3 + 2n$ " are .....
- d Twice of subtracting 5 from the number  $w =$  .....

Handwritten numbers: 10960, 10583920, 21, 2, 19, 51

**Final Revision**

- e The verbal form for " $3x - 5$ " is .....
- f Ahmed's car consumes " $n$ " liters of fuel to travel a distance of 100 km. How many liters does the car need to travel a distance of 600 km? .....
- g The value of " $4 \times (y^3 - 7)$ " If  $y = 3$  is .....
- h  $3 \times 3 \times 3 \times 3 \times 3 \times 3 = \dots\dots\dots$
- i  $5^{\dots\dots\dots} = 1$                       j  $4^{\dots\dots\dots} = 4$

**Third: Answer the following:**

- 1 Moataz saved " $n$ " pounds per day for 9 days, then he got 20 pounds from his father.
  - a Write an **algebraic expression** that expresses the amount that Moataz has now: .....
  - b Complete using the preceding algebraic expression:
    - 1 The number of terms of an algebraic expression is .....
    - 2 The coefficients are .....
    - 3 The constants are .....
- 2 Find the value of each of the following two **algebraic expressions** using the numbers shown, then indicate if these expressions are equivalent or not :

	$2x + 1$	$5x - 4$	Equal or Not?
If $x = 5$			
If $x = 3$			

From the previous table, we find that the two algebraic expressions are ..... (Equivalent or Not).



# Assessment on Unit 4

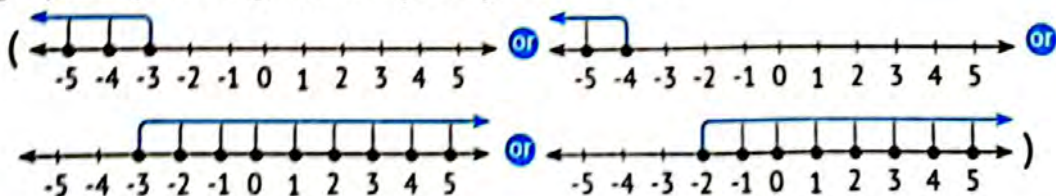


**First:** Choose the correct answer:

- a If  $a + 3 = 7$ , then  $a =$  ..... ( 7 or 3 or 10 or 4 )
- b If  $b = 6$ , then  $b -$  ..... = 2. ( 4 or 8 or 2 or 3 )
- c If  $5x = 40$ , then  $x =$  ..... ( 35 or 45 or 8 or 200 )
- d If  $y = 6$ , then  $\frac{y}{\text{.....}} = 2$ . ( 3 or 8 or 12 or 4 )
- e The inequality that represents all values "greater than 4" is .....  
(  $x > 4$  or  $x < 4$  or  $x \leq 4$  or  $x \geq 4$  )
- f The inequality that represents all values "less than or equal to -2" is .....  
(  $x > -2$  or  $x < -2$  or  $x \leq -2$  or  $x \geq -2$  )
- g The inequality that represents all negative numbers are .....  
(  $x > 0$  or  $x < 0$  or  $x \leq 0$  or  $x \geq 0$  )
- h Which of the following is a solution to the inequality  $x < -6$ ?  
( 5 or -5 or -7 or 7 )
- i The inequality represented by the corresponding graph is .....  
(  $x > 4$  or  $x < 4$  or  $x \leq 4$  or  $x \geq 4$  )



j The graph expressing the inequality " $x < -3$ " is .....



**Second:** Complete all of the following:

- a If  $x + 7 = 9$ , then  $x =$  .....      b If  $4m = 20$ , then  $m =$  .....  
c If  $b = 12$ , then  $b -$  ..... = 8.      d If  $d = 3$ , then .....  $\times d = 18$ .

**Final Revision**

e If  $k = 6$ , then  $2 = \dots + k$ .

f The equation that represents the corresponding model is  $\dots$ .



g The inequality that represents all values "less than -6" is  $\dots$ .

h The inequality that represents all values "greater than or equal to 3" is  $\dots$ .

i The inequality that represents all positive integers are  $\dots$ .

j The similarities between the graphs of the two algebraic expressions  $x = 9$  and  $x \geq 9$  are  $\dots$ .

**Third:** Answer the following:

1 Find the value of the variable in each of the following equations:

a  $x - 5 = 4$

=  $\dots$

=  $\dots$

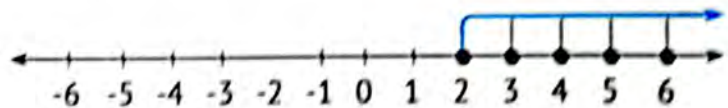
b  $4x = 24$

=  $\dots$

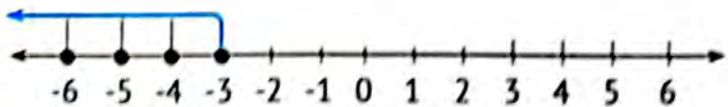
=  $\dots$

2 Use the following number line to write inequalities:

a  $\dots$



b  $\dots$



# Assessment on Unit

# 5



**First:** Choose the correct answer:

- a In the equation " $a = 3b$ ", the independent variable is .....  
( a or b or 3 or  $3b$  )
- b In the equation " $m + 5 = r$ ", the dependent variable is .....  
( m or 5 or r or  $5m$  )
- c If the independent variable is the number of studying hours, then the dependent variable is the ..... ( exam result or school uniform color or means of access to school or number of class students )
- d If the dependent variable is the number of training hours, then the independent variable is ..... ( the number of days you go to the club or the distance between the club and the house or the color of your training clothes or the height of the house )
- e The equation that expresses the relationship "subtract from 6" is .....  
(  $y = x - 6$  or  $y = 6 - x$  or  $y - x = 6$  or  $y = 6x$  )
- f The equation that expresses the relationship "add 5 then multiply by 2" is ..... (  $y = 2x + 5$  or  $y = 2(x + 5)$  or  $y = 5x + 2$  or  $y = (x + 2) \times 5$  )
- g The relation that represents the equation " $y = (x - 8) \div 3$ " is .....  
( divide by 8, then subtract 3 or subtract 8, then divide by 3 or divide by 3, then subtract 8 or subtract 3, then divide by 8 )
- h If  $y = 2x + 3$ ,  $x = 2.5$  then  $y =$  ..... ( 5 or 11 or 8 or 5.5 )
- i If  $y = 2(x + 4)$ ,  $x = 5$ , then  $y =$  ..... ( 11 or 29 or 18 or 14 )
- j If  $y = 5x - 8$ ,  $x = 8$ , then  $y =$  ..... ( 32 or 2 or 30 or 12 )



**Second: Complete the following:**

- a In the equation " $8a = b$ " the independent variable is .....
- b If the number of cars in the garage depends on the size of the garage, then:
  - 1 the independent variable is .....
  - 2 the dependent variable is .....
- c If the independent variable is what Ahmed saves every day and the dependent variable is what he saves in one week, then ..... depends on .....
- d If the rule is "add 2.4", then
  - 1 the equation is .....
  - 2 if  $x = 4$ , then  $y =$  .....
- e If the rule is "divide by 4" then
  - 1 the equation is .....
  - 2 if  $x = 16$ , then  $y =$  .....
- f If the equation is  $y = (15 + x) \div 4$ , then :
  - 1 the rule is .....
  - 2 if  $x = 5$ , then  $y =$  .....

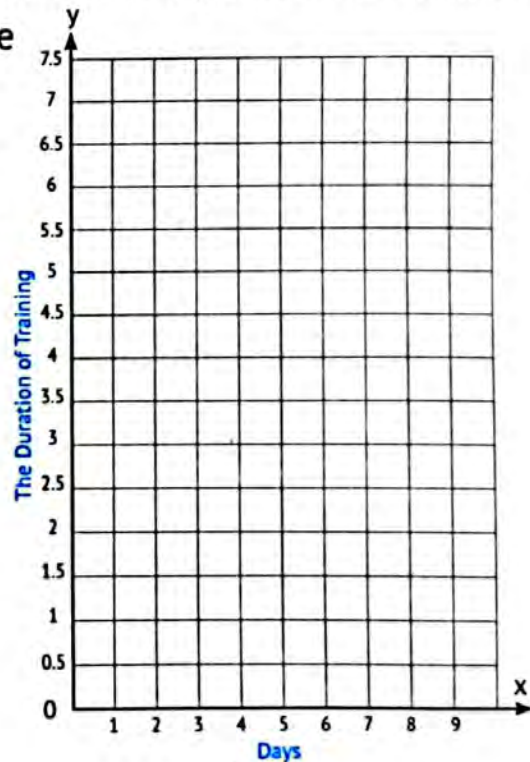
**Third: Sameh trains for 6 hours divided into 4 days equally:**

Complete the following table, where the variable "x" represents the number of days, and the variable "y" represents the duration of training in hours. Write an equation that shows the relationship between the variables "x" and "y", and then represent it graphically.

<b>x</b>	1	2	3	4
<b>y</b>	.....	.....	.....	.....

The equation

.....



# Model 1

## First Choose the correct answer:

- 1  $4^2 = \dots\dots\dots$  (4 X 2 or 4 X 4 or 4 + 2 or 4 + 4)
- 2 The value of the expression "2 a + 2 X 3" when a = 3 is  $\dots\dots\dots$ .  
(15 or 33 or 12 or 24)
- 3 If  $a + 8 = 15$ , then  $a = \dots\dots\dots$ . (7 or 15 or 8 or 23)
- 4 The inequality that represents negative integers are  $\dots\dots\dots$ .  
(where x is an integer) ( $x > 0$  or  $x < 0$  or  $x \leq 0$  or  $x \geq 0$ )
- 5 The equation that expresses the relationship "subtract from 9" is:  $\dots\dots\dots$ .  
( $y = x - 9$  or  $y = 9 - x$  or  $y - x = 9$  or  $y = 9x$ )
- 6 Two integers whose sum is (s), one of which is 10, then the other number is  $\dots\dots\dots$ .  
( $s+10$  or  $s-10$  or  $10-s$  or  $10s$ )
- 7 If  $y^3 = 64$ , then the value of y is  $\dots\dots\dots$ . (2 or 4 or 8 or 16)

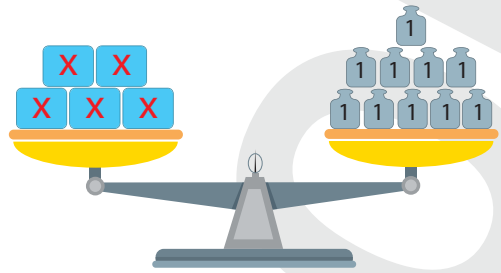
## Second Complete the following:

- 1 If the side length of a square is "s" cm, then the perimeter of the square =  $\dots\dots\dots$ .
- 2  $7^2 = \dots\dots\dots$  X  $\dots\dots\dots$
- 3 The inequality " $x < 2$ " represents: all values  $\dots\dots\dots$ .
- 4 If the rule is "Add 7 and then multiply by 2" then the equation is  $\dots\dots\dots$ .

**Third** Essay questions:

1 From the opposite model:

- a The equation is .....
- b  $x =$  .....



2 If **Bassem** runs **0.8** km every minute, write a mathematical expression that expresses the number of kilometers that **Bassem** runs in **t** minutes.

.....

3 Solve:  $4x = 24$

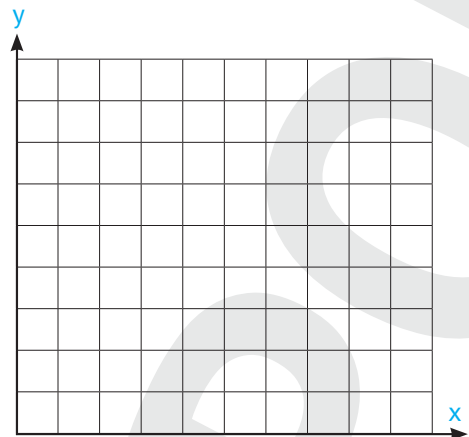
.....

4 Hossam buys **4** eggs for **6** pounds.

**Complete** the following table, where the variable **x** represents the number of eggs and the variable **y** represents the total price. Write an equation showing the relationship between the variables **x** and **y**, and then represent it graphically.

<b>X</b>	1	2	3	6
<b>Y</b>	.....	.....	.....	.....

□ The equation : .....



## Model 2

**First** Choose the correct answer:

- 1  $3^0 =$  ..... (3  or 0  or 1  or  $3 \times 0$ )
- 2 If the price of one shirt is 120 Egyptian pounds, then the price of  $m$  number of shirts is ..... (120  $m$   or  $120 \div m$   or  $120 + m$   or  $120 - m$ )
- 3 If  $y = 27$ , then  $\frac{y}{\quad} = 9$ . (18  or 3  or 27  or 9)
- 4 The inequality representing the statement "All values greater than  $-5$ " is ..... ( $x > -5$   or  $x < -5$   or  $x \leq -5$   or  $x \geq -5$ )
- 5 Which of the following values is a solution to the inequality " $x < -6$ "? (5  or  $-5$   or  $-7$   or 7)
- 6 The inequality representing the statement "All values greater than  $-1$ " is ..... ( $x > -1$   or  $x < -1$   or  $x - 1 = 0$   or  $x = -1$ )
- 7  $5^{\quad} = 1$  (0  or 1  or 2  or 5)

**Second** Complete the following:

- 1 The value of the expression  $r^2$  (when  $r = 9$ ) is .....
- 2  $6^2 \div 3^2 \times 2 =$  .....
- 3 If  $x - 5 = 4$ , then,  $x =$  .....
- 4 If  $y = 5x$ , then the independent variable is ....., the dependent variable is .....

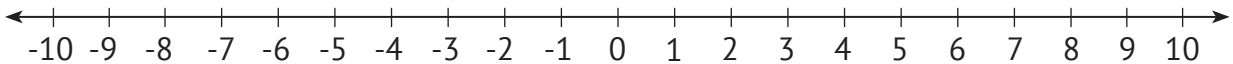
**Third** Essay questions:

1 If the rule is "Divide by 4, then subtract 3", then the equation is

.....

2 In a car park, an amount of **10 pounds** is collected for parking the car for the first hour, and **5 pounds** are added for every hour of waiting **after** the first hour. Write an algebraic expression that expresses the amount collected for parking the car for  **$h$**  hours **after** the first hour. (.....)

3 Represent the inequality " $x < 2$ ", where  $x$  is an integer



4 Find the value:

$$2 \times 10^2 + 15 = \dots\dots\dots$$

$$= \dots\dots\dots$$

$$= \dots\dots\dots$$

## Model 3

### First Choose the correct answer:

- 1 The relationship that expresses the equation " $y = 5x$ " is .....  
 (add 5  multiply by 5  divide by 5  subtract 5)
- 2  $1^5 =$  ..... (1 x 5  1 + 5  1  0)
- 3  $5^2 + 2^2 \times 10^2 =$  ..... (425  2,900  129  410)
- 4 The value of the expression  $(12 - x^3) \div 2$  when  $x = 2$  is .....  
 (8  10  2  6)
- 5 Which of the following values is not a solution to the inequality " $x > -1$ "?  
 (1  0  -2  -0.5)
- 6  $3^2 + 4$  .....  $9 + 2^2$  ( $>$    $=$    $<$    $\leq$ )
- 7 If  $x = 3$ , then  $x + 2 =$  ..... (1  5  6  1)

### Second Complete the following:

- 1 The value of the expression " $3 \times (y^2 - 5)$ " when  $y = 3$  is .....
- 2 In  $5^7$ , 5 is called ..... and 7 is called .....
- 3 If  $\frac{1}{8}b = 6$ , then  $b =$  .....
- 4 If the equation is " $y = 3(x + 5)$ ", then the rule is .....

**Third** Essay questions:

- 1 Fouad studies for  $k$  hours a day for 5 days, then studies for 6 hours on the sixth day. Write an algebraic expression for the number of hours he studies in the 6 days.

(.....)

- 2 Solve:  $\frac{1}{5}t = 4$

.....

.....

- 3 Find the value:

$$[5^2 \times (6^2 \div 9)] - 2^4 = \text{.....}$$

$$= \text{.....}$$

$$= \text{.....}$$

$$= \text{.....}$$

## Model 4

### First

 Choose the correct answer:

- 1 The equation that expresses the relationship "divide by 2, then add 5" is .....
- $(y = 2x + 5 \text{ or } y = \frac{1}{2}x + 5 \text{ or } y = \frac{(x+5)}{2} \text{ or } y = \frac{1}{5}x + 2)$
- 2  $2 \times 2 \times 2 \times 2 \times 2 =$  .....  $(2^5 \text{ or } 5^2 \text{ or } 2 \times 5 \text{ or } 2 + 5)$
- 3 The value of the expression " $2 \times 16 - 3b$ " when  $b = 4$  is .....
- $(8 \text{ or } 20 \text{ or } 25 \text{ or } 10)$
- 4 The inequality that represents all values less than or equal to  $-7$  is .....
- $(x > -7 \text{ or } x < -7 \text{ or } x \leq -7 \text{ or } x \geq -7)$
- 5 In " $u = 3 \div w$ " the independent variable is .....
- $(w \text{ or } u \text{ or } 3 \text{ or } w / 3)$
- 6 If  $a + 8 = 15$ , then  $a =$  .....
- $(7 \text{ or } 15 \text{ or } 8 \text{ or } 23)$
- 7 The value of the expression " $(15 - x^2) - 2$ " when  $x = 2$  is .....
- $(8 \text{ or } 10 \text{ or } 2 \text{ or } 3)$

### Second

 Complete the following:

- 1  $11^0 =$  .....
- 2 The inequality " $x > 9$ " represents: all values .....
- 3 If  $y = p - 3$ , then the independent variable is ....., the dependent variable is .....
- 4 If the equation is " $y = (x - 2) \times 4$ ", then the rule is .....



**Third** Essay questions:

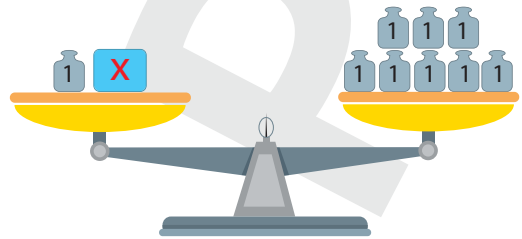
1 Hala receives a daily wage of  $p$  pounds. If its expenses in 10 days amounted to 325 pounds. Write an algebraic expression for the amount remaining with her in the next 10 days.

( ..... )

2 From the opposite model:

a The equation is .....

b  $x =$  .....



3 Solve:  $\frac{5}{4} = 3$

.....

4 Find the value: [If  $b = 2$ ]

$$3b + 6 X ( b^2 - 3) = \dots\dots\dots$$

$$= \dots\dots\dots$$

$$= \dots\dots\dots$$

## Model 5

### First Choose the correct answer:

- 1 The relation that represents the equation " $y = (x - 3) \div 2$ " is .....  
 (divide by 2 then subtract 3 **or** subtract 3 then divide by 2  
**or** multiply by 3 then divide 2 **or** subtract 3 then multiply 2)
- 2 The equation that expresses the relationship "subtract from 4"  
 is: .....  
 ( $y = x + 4$  **or**  $y = 4 - x$  **or**  $y + x = 4$  **or**  $y = 4x$ )
- 3  $2^4$  .....  $4^2$  ..... ( $<$  **or**  $=$  **or**  $\geq$ )
- 4  $4^3 =$  .....  
 ( $4 + 3$  **or**  $4 \times 3$  **or**  $4 + 4 + 4$  **or**  $4 \times 4 \times 4$ )
- 5  $5^2 + 4$  .....  $2^5$  ..... ( $>$  **or**  $=$  **or**  $<$  **or**  $\leq$ )
- 6 The inequality that represents all values to the left of 5 on a number  
 line is .....  
 ( $x > 5$  **or**  $x < 5$  **or**  $x \leq 5$  **or**  $x \geq 5$ )
- 7 Which of the following values is a solution to the inequality  $x \geq 5$ ?  
 ( $-5$  **or**  $4.59$  **or**  $-25$  **or**  $6$ )

### Second Complete the following:

- 1 If the price of one book is 25 pounds, then the price of "a" books  
 = .....
- 2 If  $p - 6 = 5$ , then  $p =$  .....
- 3 In the equation " $m - 8 = a$ ", the dependent variable is .....
- 4 ..... to the power ..... =  $6^4$

**Third** Essay questions:

1 Solve:  $x + 9 = 12$  .....

2 Find the value of:

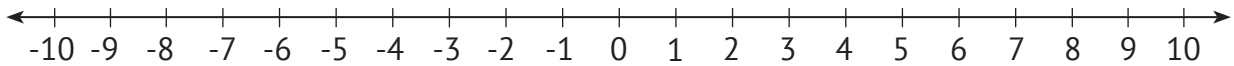
$$6a \div (a^2 - 10) = \dots\dots\dots \quad [\text{If } a = 5]$$

$$= \dots\dots\dots$$

$$= \dots\dots\dots$$

3 Represent the inequality " $x < 1$ " on the following number line:

(where  $x$  is an integer)



## Model 6

### First Choose the correct answer:

- 1 The inequality that represents the statement "All values to the right of 0" on a number line is ..... (  $x > 0$  or  $x < 0$  or  $x \leq 0$  or  $x \geq 0$  )
- 2 If the amount of fuel consumed by the car depends on the distance traveled, then the independent variable is the .....  
(fuel amount or distance traveled or traveled time or temperature)
- 3 If  $y = \frac{1}{4}x - 2$ ,  $x = 8$ , then  $y =$  ..... (0 or 2 or 6 or 30)
- 4  $6^0$  .....  $0^6$  (< or = or > or  $\geq$ )
- 5 Which of the following values is a solution to the inequality " $x < 9$ " ?  
(10 or 9.1 or -9.5 or 9)
- 6 The inequality that represents "All values greater than 4" is .....  
( $x > 4$  or  $x < 4$  or  $x \leq 4$  or  $x \geq 4$ )
- 7 If  $y^2 = 36$ , then the value of  $y$  is ..... (9 or 18 or 6 or 18)

### Second Complete the following:

- 1  $7^3 =$  ..... X ..... X .....
- 2 If  $x + 3 = 8$ , then  $x =$  .....
- 3 The inequality that represents "All values greater than or equal to 6" is .....
- 4 In the equation " $8x = y$ ", the independent variable is .....

**Third** Essay questions:

1 If  $y + 6 = 11$ , then  $y =$  .....

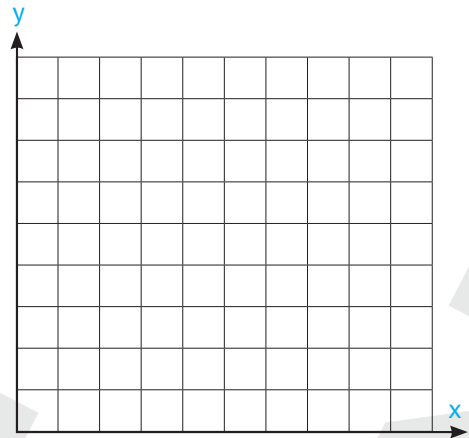
2 Nader has a discount card of **50 pounds** in a clothing store.

**Complete** the following table, where the variable  $x$  represents the value of purchases before the discount, and the variable  $y$  represents the value of purchases after the discount.

Write an equation that shows the relationship between the variables  $x$  and  $y$ , and then represent it graphically.

<b>X</b>	300	350	400	.....
<b>Y</b>	.....	.....	.....	400

□ The equation: .....



## Model 7

### First

 Choose the correct answer:

- 1 The inequality that represents "All values greater than 4" is .....  
 ( $x > 4$  or  $x < 4$  or  $x \leq 4$  or  $x \geq 4$ )
- 2 The relation that represents the equation " $y = 5x - 2$ " is .....  
 (multiply by 5 then subtract 2 or subtract 2 then multiply by 5  
 or divide by 5 then subtract 2 or multiply by 5 then add 2)
- 3  $2^3 \times (5^2 + 7) =$  ..... (207 or 256 or 136 or 102)
- 4  $2^3 + 2^3 =$  ..... ( $4^3$  or  $3^4$  or  $2^4$  or  $4^6$ )
- 5 Which of the following values is a solution to the inequality " $x < -2$ "?  
 (0 or 1.5 or -3 or -2)
- 6 If the price of one shirt is 200 Egyptian pounds, then the price of y  
 number of shirts is ..... ( $200y$  or  $\frac{200}{y}$  or  $200 + y$  or  $200 - y$ )
- 7 If  $y = \frac{1}{4}x - 2$ ,  $x = 32$ , then  $y =$  ..... (0 or 2 or 6 or 30)

### Second

 Complete the following:

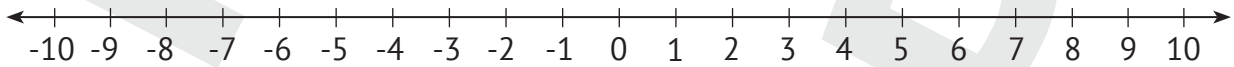
- 1  $1^3 =$  .....
- 2  $126 = 14k$ , then  $k =$  .....
- 3 In the algebraic term " $7xy$ ", the coefficient is .....
- 4 The inequality in which all positive numbers are .....

**Third** Essay question:

1 Use the equation " $y = 2x + 3$ " and complete the following table:

<b>X</b>	2	5	.....	.....	9	.....	3	8	.....
<b>Y</b>	.....	.....	15	17	.....	5	.....	.....	11

2 Represent the inequality " $x \leq 0$ " (where  $x$  is an integer)



3

$$3 \times 2^3 \div 12 = \text{.....}$$

$$= \text{.....}$$

$$= \text{.....}$$

## Model 8

**First** Choose the correct answer:

1  $3^2 = \dots\dots\dots$  ( $3 + 3$  or  $2 + 2 + 2$  or  $3 \times 3$  or  $3 \times 2$ )

2  $(10 \times 3 - 8) - 5 \times (6 - 2) = \dots\dots\dots$  ( $8$  or  $0$  or  $2$  or  $68$ )

3 If  $a + 3 = 7$ , then  $a = \dots\dots\dots$  ( $7$  or  $3$  or  $10$  or  $4$ )

4 If  $y = 6$ , then  $\frac{y}{\dots} = 2$ . ( $3$  or  $8$  or  $12$  or  $4$ )

5 The inequality that represents all values greater than or equal  $-1$  is  
 $\dots\dots\dots$ . ( $x > -1$  or  $x < -1$  or  $x \leq -1$  or  $x \geq -1$ )

6 The inequality that is represented on the following number line is  $\dots\dots\dots$ .



( $x > 1$  or  $x < 1$  or  $x = 1$  or  $x + 1 = 0$ )

7  $3^2 + 3^2 + 3^2 = \dots\dots\dots$  ( $3^6$  or  $9^2$  or  $3^3$  or  $9^6$ )

**Second** Complete the following:

1 If  $d = 3$ , then  $\dots\dots \times d = 18$ .

2 The value of the expression " $9x$  (when  $x = 5$ )" is  $\dots\dots\dots$ .

3 Four to the power 5 =  $\dots\dots\dots$ .

4 If  $3m = w$ , then the independent variable is  $\dots\dots\dots$ , and the dependent variable is  $\dots\dots\dots$ .



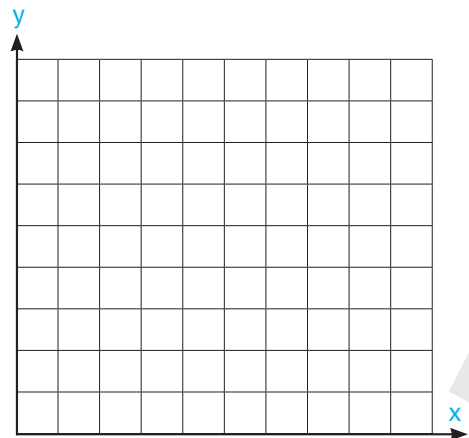
**Third** Essay question:

1 The school has 5 classes for the sixth grade.

Complete the following table, where the variable  $x$  represents the number of sixth-grade students in the school. The variable  $y$  represents the number of students in each class.

Write an equation that shows the relationship between the variables  $x$  and  $y$ , and then represent it graphically.

<b>X</b>	150	175	.....	.....
<b>Y</b>	.....	.....	40	45



□ The equation: .....

2 Find the value:

$$15 + 3x - x^2 = \dots\dots\dots \quad [ \text{If } x = 4 ]$$

$$= \dots\dots\dots$$

$$= \dots\dots\dots$$

## Model 9

### First

 Choose the correct answer:

- 1 In " $u = 3 \div w$ " the independent variable is ..... (w or u or 3 or  $\frac{w}{3}$ )
- 2  $7^{-1} = 7$  (0 or 1 or 2 or 10)
- 3 If Hanan saves "d" pound daily for 5 days, then her father gives her 20 pounds, then the amount that Hanan has now is .....  
( $5 + 20d$  or  $20 - 5d$  or  $5d + 20$  or  $5 \times (d + 20)$ )
- 4 If  $5x = 40$ , then  $x =$  ..... (35 or 45 or 8 or 200)
- 5 The inequality that represents "All values to the left of 5" on a number line is ..... ( $x > 5$  or  $x < 5$  or  $x \leq 5$  or  $x \geq 5$ )
- 6  $5 \times 3 + 2^2 =$  ..... (35 or 19 or 51 or 17)
- 7  $3^{-1} = 3$  (0 or 1 or 3 or 10)

### Second

 Complete the following:

- 1 The algebraic expressions " $2x + 3$ " and " $2(x + 1)$ " are ..... expressions (equal, not equal)
- 2 In  $3^8$ , 3 is called ..... and 8 is called .....
- 3 The inequality that represents "All values less than  $-6$ " is .....
- 4 If  $x^3 = 8$ , then,  $x^4 =$  .....

**Third** Essay questions:

- 1 Mona saved 22 pounds from which she bought 3 notebooks, the price of each  $y$  pounds. How much money is left with Mona?
- .....

- 2 Find the value of (show your steps):

$$\begin{aligned} 2 \times 10^2 + 15 &= \text{.....} \\ &= \text{.....} \\ &= \text{.....} \end{aligned}$$

- 3 Represent the inequality " $x > -2$ " on the following number line:



## Model 10

### First Choose the correct answer:

- 1  $3^2 + 3^2 + 3^2 = \dots\dots\dots$  ( $3^6$  or  $9^2$  or  $3^3$  or  $9^6$ )
- 2 Which of the following order of operations is used to find the value of the expression " $8 + 2 \times (n^2 - 3)$ ", when  $n = 5$ ?  
(Putting the exponent in its simplest form: subtraction, multiplication, addition  
or Addition, multiplication, exponentiation in its simplest form: subtraction  
or Putting the exponent in its simplest form: addition, subtraction, multiplication  
or Putting the exponent in its simplest form: multiplication, addition, subtraction)
- 3 If  $b = 6$ , then  $b - \dots\dots\dots = 4$  ( $10$  or  $4$  or  $2$  or  $6$ )
- 4 The inequality that represents "All the values to the right of the number 3 plus the number 3" on the number line is  $\dots\dots\dots$ .  
( $x > 3$  or  $x < 3$  or  $x \leq 3$  or  $x \geq 3$ )
- 5 If  $a = 5d$ , then the dependent variable is  $\dots\dots\dots$ . ( $5$  or  $a$  or  $d$  or  $5d$ )
- 6  $(3^3 - 3^2) \div 3^2 = \dots\dots\dots$  ( $26$  or  $9$  or  $0.5$  or  $2$ )
- 7 The value of the expression " $a^2 + 2 \times 3$ " when  $a = 3$  is  $\dots\dots\dots$ .  
( $15$  or  $33$  or  $12$  or  $24$ )

### Second Complete the following:

- 1 The inequality " $x \geq -4$ " represents: All values  $\dots\dots\dots$ .
- 2 If  $3^x = 81$ , then the value of  $x$  is  $\dots\dots\dots$ .
- 3  $9^0 = \dots\dots\dots$
- 4 If the rule is "subtraction from 8" then the equation is:  $\dots\dots\dots$ .

**Third** Essay question:

- 1 If the number of baked goods depends on the amount of flour used, then: The independent variable is: .....  
and the dependent variable is: .....

- 2 Find the value (show your steps):

$$\begin{aligned} 8 + 5^2 - 30 &= ..... \\ &= ..... \\ &= ..... \end{aligned}$$

- 3 **Speed of a car** = Distance  $\div$  Time. If the time is **3** hours, then:

The equation that represents the relationship between distance (**x**) and speed (**y**) is .....

# Guide Answers

## Nov. Models Exams

### Model 1

#### First

- 1**  $4 \times 4$       **2** 12  
**3** 7      **4**  $x < 0$       **5**  $y = 9 - x$   
**6**  $s - 10$       **7** 4

#### Second

- 1**  $4s$       **2**  $7 \times 7$   
**3** less than 2      **4**  $y = (x + 7) \times 2$

#### Third

- 1** **a**  $5x = 10$       **b**  $x = 2$   
**2**  $y = 0.8t$       **3**  $x = 24 \div 4 = 6$   
**4**

X	1	2	3	6
Y	1.5	3	4.5	9

The equation:  $y = 1.5x$

### Model 2

#### First

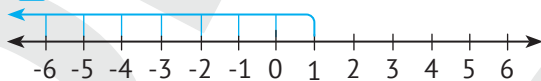
- 1** 1      **2** 120 m  
**3** 3      **4**  $x > -5$       **5** -7  
**6**  $x > -1$       **7** 0

#### Second

- 1** 81      **2** 8  
**3** 9      **4**  $x, y$

#### Third

- 1**  $Y = (x \div 4) - 3$   
**2**  $y = 10 + 5h$   
**3**



- 4**  $2 \times 10^2 + 15 = 2 \times 100 + 15$   
 $= 200 + 15$   
 $= 215$

### Model 3

#### First

- 1** multiply by 5      **2** 1  
**3** 425      **4** 2      **5** -2  
**6** =      **7** 5

#### Second

- 1** 12      **2** base, power      **3** 48  
**4** three times the sum of  $x$  and 5

#### Third

- 1**  $5k + 6$       **2**  $t = 4 \times 5 = 20$   
**3**  $[5^2 \times (6^2 \div 9)] - 2^4 = [25 \times (36 \div 9)] - 16$   
 $= [25 \times 4] - 16$   
 $= 100 - 16$   
 $= 84$

### Model 4

#### First

- 1**  $y = 1/2x + 5$       **2**  $2^5$       **3** 20  
**4**  $x \leq -7$       **5**  $w$       **6** 23  
**7** 3

#### Second

- 1** 1      **2** greater than 9  
**3**  $p, y$   
**4** four times difference between  $x$  and 2

#### Third

- 1**  $10p - 325$   
**2** **a**  $x + 1 = 8$       **b**  $x = 7$   
**3**  $s = 3 \times 4 = 12$   
**4**  $3b + 6 \times (b^2 - 3) = 3 \times 2 + 6(2^2 - 3)$   
 $= 6 + 6 \times (4 - 3)$   
 $= 6 + 6 \times 1 = 6 + 6 = 12$

**Model 5**

**First**

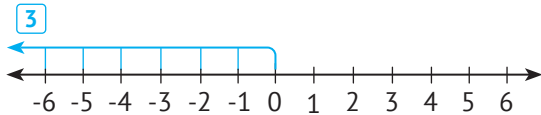
- 1 subtract 3 then divide by 2
- 2  $y = 4 - x$
- 3 =
- 4  $4 \times 4 \times 4$
- 5 <
- 6  $x < 5$
- 7 6

**Second**

- 1 25 a
- 2 11
- 3 a
- 4 6, 4

**Third**

- 1 21
- 2  $6 \times 5 \div (5^2 - 10) = 6 \times 5 \div (25 - 10)$   
 $= 6 \times 5 \div 15$   
 $= 30 \div 15 = 2$



**Model 6**

**First**

- 1  $x > 0$
- 2 distance traveled
- 3 0
- 4 >
- 5 - 9.5
- 6  $x > 4$
- 7 6

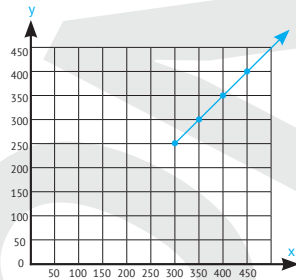
**Second**

- 1  $7 \times 7 \times 7$
- 2 5
- 3  $x \geq 6$
- 4 x

**Third**

- 1 5
- 2

X	300	350	400	450
Y	250	300	350	400



The equation:  $y = x - 50$

**Model 7**

**First**

- 1  $x > 4$
- 2 Multiply by 5 then subtract 5
- 3 256
- 4  $2^4$
- 5 - 3
- 6 200 y
- 7 6

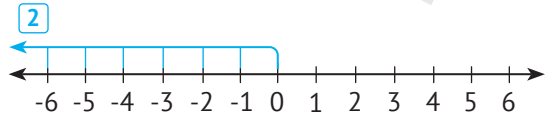
**Second**

- 1 1
- 2 9
- 3 7
- 4  $x > 0$

**Third**

- 1 Using the equation " $y = 2x + 3$ " and complete the following table:

X	2	5	6	7	9	1	3	8	4
Y	7	13	15	17	21	5	9	19	11



- 3  $3 \times 2^3 \div 12 = 3 \times 8 \div 12$   
 $= 24 \div 12$   
 $= 2$

**Model 8**

**First**

- 1  $3 \times 3$
- 2 2
- 3 4
- 4 12
- 5  $x \geq -1$
- 6  $x < 1$
- 7  $3^3$

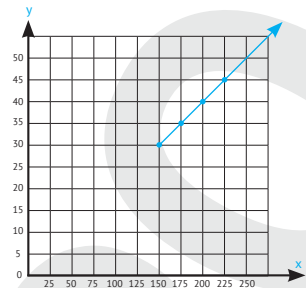
**Second**

- 1 6
- 2 45
- 3  $4^5$
- 4 m, w

**Third**

- 1

X	150	175	200	225
Y	30	35	40	45



The equation :  $y = x \div 5$

- 2  $15 + 3x - x^2 = 15 + 3 \times 4 - 4^2$   
 $= 15 + 12 - 16$   
 $= 27 - 16 = 11$

**Model 9**

**First**

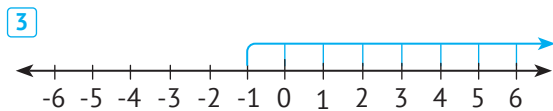
- 1 w                      2 1                      3  $5d + 20$
- 4 8                      5  $x < 5$                       6 19
- 7 1

**Second**

- 1 not equal                      2 base, power
- 3  $x < -6$                       4 16

**Third**

- 1  $22 - 3y$
- 2  $2 \times 10^2 + 15 = 2 \times 100 + 15$   
 $= 200 + 15$   
 $= 215$



**Model 10**

**First**

- 1  $3^3$
- 2 Putting the exponent in its simplest form: subtraction, multiplication, addition
- 3 2                      4  $x \geq 3$                       5 a
- 6 2                      7 15

**Second**

- 1 greater than or equal - 4                      2 4
- 3 1                      4  $y = x - 8$

**Third**

- 1 The independent variable is the amount of flour used.  
 The dependent variable is the number of baked goods.
- 2  $8 + 5^2 - 30 = 8 + 25 - 30$   
 $= 33 - 30$   
 $= 3$
- 3  $y = x \div 3$





# November Questions Bank

## التميز

### Question 01

### Choose the correct answer

- 1 Take away double the number  $m$  from 20 is written as .....
  - (a)  $20 - m$
  - (b)  $m - 20$
  - (c)  $2m - 20$
  - (d)  $20 - 2m$
- 2 The volume of the cube of edge length 4 cm is ..... $\text{cm}^3$ 
  - (a)  $12 \times 4$
  - (b)  $4 + 4 + 4$
  - (c)  $4^3$
  - (d)  $3^4$
- 3  $3 \times 3 \times 3 \times 3 \times 3 = \dots\dots\dots$ 
  - (a)  $3 \times 5$
  - (b)  $3 + 3 + 3 + 3 + 3$
  - (c)  $3^5$
  - (d)  $5^3$
- 4  $3 + 3 + 3 + 3 + 3 = \dots\dots\dots$ 
  - (a)  $3 \times 5$
  - (b)  $3 \times 3 \times 3 \times 3 \times 3$
  - (c)  $3^5$
  - (d)  $5^3$
- 5 The value of the expression  $5m \div 3$  for  $m = 6$  is .....
  - (a) 3
  - (b) 5
  - (c) 6
  - (d) 10
- 6 The first operation you perform in the expression  $6 + 5^3 - 4 \div 2$  is .....
  - (a) add
  - (b) Subtract
  - (c) exponent
  - (d) Divide
- 7 The first operation you perform in the expression  $6 + 5^3 - (4 \div 2)$  is .....
  - (a) add
  - (b) Subtract
  - (c) exponent
  - (d) Divide
- 9 Seven cubed added to six squared equals .....
  - (a)  $7 \times 3 + 6 \times 2$
  - (b)  $6^2 + 7^3$
  - (c)  $6^2 - 7^3$
  - (d)  $2^6 + 3^7$
- 10 Rozana saved  $x$  pounds . Mr Mahmoud Elkholy gave her 20 pounds , then she have .....pounds now .
  - (a)  $X - 20$
  - (b) 45
  - (c)  $X + 20$
  - (d)  $20 \times x$
- 11 If  $x + 5 = 8$  , then  $3x = \dots\dots\dots$ 
  - (a) 3
  - (b) 5
  - (c) 9
  - (d) 15



- 12 A number if added to 5 the result is 17 , then the number is .....
- (a) 12 (b) 22 (c) 5 (d) 17
- 13 .....is a solution of the inequality  $d > 15$
- (a) 15 (b) 12 (c) 20 (d) All of them
- 14 .....is a solution of the inequality  $d \geq 15$
- (a) 15 (b) 16 (c) 20 (d) All of them
- 15 Youssef eat at least 3 oranges , then Youssef may eat .....oranges
- (a) 3 (b) 5 (c) 12 (d) All of them
- 16 Layan has 25 pounds and Maya has more money than Layan , then Maya may has .....pounds .
- (a) 25 (b) 20 (c) 100 (d) All of them
- 17 Ziad has 16 candies and Kareem has less candies than Ziad , then Kareem may has .....candies .
- (a) 100 (b) 16 (c) 10 (d) All of them
- 18 Jana bought 6 SPIRO SPATHIS and Mohamed bought same number or more ,then Mohamed may bought ..... SPIRO SPATHIS .
- (a) 6 (b) 12 (c) 100 (d) All of them
- 19 All of the following are solutions of inequality  $x \leq -8$  except .....
- (a) -8 (b) -10 (c) -7 (d) All of them
- 20 In the equation :  $5x + 2 = y$  the independent variable is .....
- (a) 5 (b) 2 (c) x (d) y
- 21 In the equation :  $b = \frac{1}{2}f + 3$  the dependent variable is .....
- (a) 5 (b) 2 (c) f (d) b
- 22 In  $y = \frac{1}{2}x + 3$  . if  $x = 6$  ,then  $y =$  .....
- (a) 6 (b) 3 (c) 9 (d) 15
- 23 In the equation :  $y = 2x + 5$  . if  $y = 11$  ,then  $x =$  .....
- (a) 2 (b) 3 (c) 4 (d) 5



- 24 Which of the following is an equation ?
- (a)  $3n + 7$       (b) 7 times the number h      (c)  $3c = 3$       (d)  $6e - 7$
- 25  $(2, m)$  satisfies the rule  $y = 3x - 2$ , then  $m = \dots\dots\dots$
- (a) 1      (b) 2      (c) 3      (d) 4
- 26 In the equation :  $y = 2x + 10$ , the ordered pair  $(3, n)$  satisfies the equation, then  $n = \dots\dots\dots$
- (a) 2      (b) 10      (c) 16      (d) 30
- 27 "Y is 6 times h added to 12" in equation is .....
- (a)  $12 = y + 6h$       (b)  $Y = 12h + 6$       (c)  $H = 6y + 12$       (d)  $Y = 6h + 12$
- 28  $(\dots\dots\dots, \dots\dots\dots)$  is called the origin .
- (a)  $(1, 1)$       (b)  $(0, 1)$       (c)  $(0, 0)$       (d)  $(1, 0)$

## Question 02

## Complete

- 1 6 cubed = .....
- 2 5 squared = .....
- 3  $5^2 + 6 - 2^3 = \dots\dots\dots$
- 4 The value of the expression  $2x^2 - (2x + 3^2)$  for  $x = 3$  is .....
- 5 If the price of one pen is 6 pounds, then the price of x pens is .....
- 6 If the price of 10 pens is x pounds, then the price of one pen is .....
- 7 In  $5^4$  the base is .....and the exponent is .....
- 8 The base is 8 and the exponent is 3, then the exponential form of this is .....
- 9 In a square the side length is x then the perimeter is .....and the area is .....
- 10 If  $x = 2$ , then  $2x + 5$  and  $3(x + 1)$  are have the same value? .....
- 11  $5x = 20$ , then  $\frac{1}{2}x = \dots\dots\dots$
- 12  $100x = 0$ , then  $12x = \dots\dots\dots$





- 13 The equation which represented by the opposite table is .....
- 14  $100x = 100$  , then  $12x =$  .....
- 15  $\frac{x}{5} = 6$  , then  $x =$  .....
- 16  $3n = 15$  , then  $n =$  .....
- 17  $X + 5.4 = 7.8$  , then  $x =$  .....
- 18  $7x = 28$  , then  $\frac{1}{2}x =$  .....
- 19 “ F equals the product of m and 6 “ as an equation is .....
- 20 The inequality that represent the negative integers is .....
- 21 The inequality that represent the negative rational numbers is .....
- 22 The inequality that represent the positive integers is .....
- 23 The inequality that represent the positive rational numbers is .....
- 24 The inequality that represent the non-negative integers is .....
- 25 The inequality that represent the non-positive integers is .....
- 26 The inequality that represent the set of counting numbers is .....
- 27 The inequality that represent the set of natural numbers is .....
- 28 “ Twice x added to 7 equals y “ as an algebraic equation is .....
- 29 “  $m = 5d - 5$  “ as a verbal is .....
- 30 In the equation :  $d = \frac{5}{9}n - 8$  the dependent variable is .....
- 31 The verbal phrase for  $k + 10 = 12$  is .....
- 32 “ 20 more than v equals m “ in equation is .....
- 33 The rule is “ multiply by 8 “ . if  $x = \frac{1}{4}$  , then y would be .....

Y	1	2	3	4
X	2	4	6	8

### Question 03

### Answer the following questions

- 1 Simplify the following :  
 1)  $6^2 + 2 ( 24 - 9 ) \div 3$  .....  
 2)  $8 - 4 \times 6 \div ( 5 - 3 )^3$  .....
- 2 When  $m = 3$  . solve  $9 + ( m^2 - 3 ) \div 2$  .....

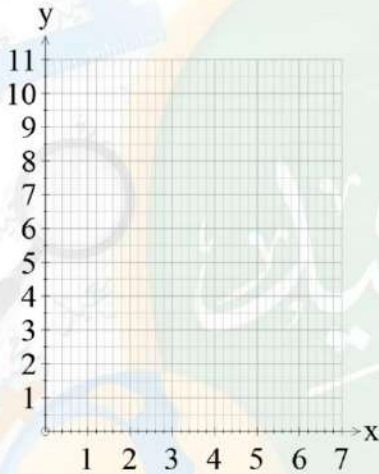


- 3 Rodina has 30 pounds , she will save 10 pounds daily . write the algebraic expression , then evaluate how much money will she have after 1 week ?
- .....

- 4 Represent  $5 \geq x$  on the number line in the set of integers .



- 5 Write an equation. Use the variables  $x$  and  $y$  ,where  $x$  is the independent variable . Write the equation " add 1 and multiply by 2 " and substitute  $x$  by 1,2,3 and 4 to evaluate  $y$  . then complete the table ,then represent the table on a graph .



Equation is : .....

X	1	2	3	4
y				

- 6 Write a verbal phrase for each of the following :

a)  $f + 10 = m$

b)  $b = 5 - k$

c)  $2n + 8 = a$

.....

- 7 Complete the following table according to the equation :  $y = 3x - 1$

X	1	3	5	7
y				

- 8 Ahmed Mazen needed to earn at least 100 pounds daily to buy a mobile . find four possible amounts that Ahmed needed to earn ,then write the inequality that represented this situation .
- .....

تم بحمد الله ،

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ " إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ إِنَّا لَا نُضِيعُ أَجْرَ مَنْ أَحْسَنَ عَمَلًا " صدق الله العظيم





## November Questions Bank



### Question 01

### Choose the correct answer

- 1 Take away double the number  $m$  from 20 is written as .....
- (a)  $20 - m$       (b)  $m - 20$       (c)  $2m - 20$       (d)  $20 - 2m$
- 2 The volume of the cube of edge length 4 cm is ..... $\text{cm}^3$
- (a)  $12 \times 4$       (b)  $4 + 4 + 4$       (c)  $4^3$       (d)  $3^4$
- 3  $3 \times 3 \times 3 \times 3 \times 3 = \dots\dots\dots$
- (a)  $3 \times 5$       (b)  $3 + 3 + 3 + 3 + 3$       (c)  $3^5$       (d)  $5^3$
- 4  $3 + 3 + 3 + 3 + 3 = \dots\dots\dots$
- (a)  $3 \times 5$       (b)  $3 \times 3 \times 3 \times 3 \times 3$       (c)  $3^5$       (d)  $5^3$
- 5 The value of the expression  $5m \div 3$  for  $m = 6$  is .....
- (a) 3      (b) 5      (c) 6      (d) 10
- 6 The first operation you perform in the expression  $6 + 5^3 - 4 \div 2$  is .....
- (a) add      (b) Subtract      (c) exponent      (d) Divide
- 7 The first operation you perform in the expression  $6 + 5^3 - (4 \div 2)$  is .....
- (a) add      (b) Subtract      (c) exponent      (d) Divide
- 9 Seven cubed added to six squared equals .....
- (a)  $7 \times 3 + 6 \times 2$       (b)  $6^2 + 7^3$       (c)  $6^2 - 7^3$       (d)  $2^6 + 3^7$
- 10 Rozana saved  $x$  pounds . Mr Mahmoud Elkholy gave her 20 pounds , then she have .....pounds now .
- (a)  $X - 20$       (b) 45      (c)  $X + 20$       (d)  $20 \times x$
- 11 If  $x + 5 = 8$  , then  $3x = \dots\dots\dots$
- (a) 3      (b) 5      (c) 9      (d) 15



- 12 A number if added to 5 the result is 17 , then the number is .....
- (a) 12 (b) 22 (c) 5 (d) 17
- 13 .....is a solution of the inequality  $d > 15$
- (a) 15 (b) 12 (c) 20 (d) All of them
- 14 .....is a solution of the inequality  $d \geq 15$
- (a) 15 (b) 16 (c) 20 (d) All of them
- 15 Youssef eat at least 3 oranges , then Youssef may eat .....oranges
- (a) 3 (b) 5 (c) 12 (d) All of them
- 16 Layan has 25 pounds and Maya has more money than Layan , then Maya may has .....pounds .
- (a) 25 (b) 20 (c) 100 (d) All of them
- 17 Ziad has 16 candies and Kareem has less candies than Ziad , then Kareem may has .....candies .
- (a) 100 (b) 16 (c) 10 (d) All of them
- 18 Jana bought 6 SPIRO SPATHIS and Mohamed bought same number or more ,then Mohamed may bought ..... SPIRO SPATHIS .
- (a) 6 (b) 12 (c) 100 (d) All of them
- 19 All of the following are solutions of inequality  $x \leq -8$  except .....
- (a) -8 (b) -10 (c) -7 (d) All of them
- 20 In the equation :  $5x + 2 = y$  the independent variable is .....
- (a) 5 (b) 2 (c) x (d) y
- 21 In the equation :  $b = \frac{1}{2}f + 3$  the dependent variable is .....
- (a) 5 (b) 2 (c) f (d) b
- 22 In  $y = \frac{1}{2}x + 3$  . if  $x = 6$  ,then  $y =$  .....
- (a) 6 (b) 3 (c) 9 (d) 15
- 23 In the equation :  $y = 2x + 5$  . if  $y = 11$  ,then  $x =$  .....
- (a) 2 (b) 3 (c) 4 (d) 5



- 24 Which of the following is an equation ?
- (a)  $3n + 7$       (b) 7 times the number h      (c)  $3c = 3$       (d)  $6e - 7$
- 25  $(2, m)$  satisfies the rule  $y = 3x - 2$ , then  $m = \dots\dots\dots$
- (a) 1      (b) 2      (c) 3      (d) 4
- 26 In the equation :  $y = 2x + 10$ , the ordered pair  $(3, n)$  satisfies the equation, then  $n = \dots\dots\dots$
- (a) 2      (b) 10      (c) 16      (d) 30
- 27 "Y is 6 times h added to 12" in equation is .....
- (a)  $12 = y + 6h$       (b)  $Y = 12h + 6$       (c)  $H = 6y + 12$       (d)  $Y = 6h + 12$
- 28  $(\dots\dots\dots, \dots\dots\dots)$  is called the origin .
- (a)  $(1, 1)$       (b)  $(0, 1)$       (c)  $(0, 0)$       (d)  $(1, 0)$

## Question 02

## Complete

- 1 6 cubed = ..... $6^3$ .....
- 2 5 squared = ..... $5^2$ .....
- 3  $5^2 + 6 - 2^3 = \dots\dots 23 \dots\dots$
- 4 The value of the expression  $2x^2 - (2x + 3^2)$  for  $x = 3$  is ..... $3$ .....
- 5 If the price of one pen is 6 pounds, then the price of x pens is ..... $6x$ .....
- 6 If the price of 10 pens is x pounds, then the price of one pen is ..... $x \div 10$ .....
- 7 In  $5^4$  the base is ..... $5$ .....and the exponent is ..... $4$ .....
- 8 The base is 8 and the exponent is 3, then the exponential form of this is ..... $8^3$ .....
- 9 In a square the side length is x then the perimeter is ..... $4x$ ..... and the area is ..... $x^2$ .....
- 10 If  $x = 2$ , then  $2x + 5$  and  $3(x + 1)$  are have the same value? .....yes.....
- 11  $5x = 20$ , then  $\frac{1}{2}x = \dots 2 \dots$
- 12  $100x = 0$ , then  $12x = \dots 0 \dots$





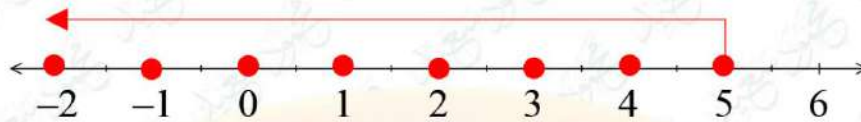


- 3 Rodina has 30 pounds , she will save 10 pounds daily . write the algebraic expression , then evaluate how much money will she have after 1 week ?

The expression is  $30 + 10d$

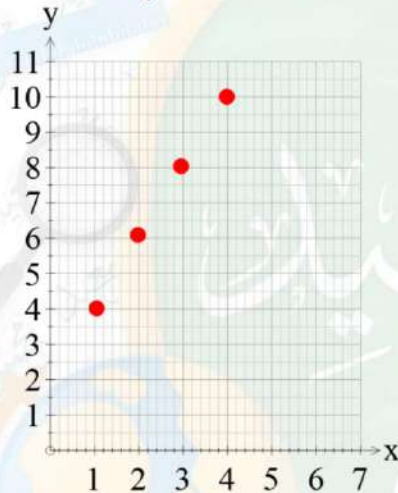
Money with her =  $30 + 10 \times 7 = 100$  pounds

- 4 Represent  $5 \geq x$  on the number line in the set of integers .



- 5 Write an equation. Use the variables  $x$  and  $y$  ,where  $x$  is the independent variable . Write the equation " add 1 and multiply by 2 " and substitute  $x$  by 1,2,3 and 4 to evaluate  $y$  . then complete the table ,then represent the table on a graph .

Equation is : .....  $[x + 1] \times 2$  .....



X	1	2	3	4
y	4	6	8	10

- 6 Write a verbal phrase for each of the following :

a)  $f + 10 = m$

b)  $b = 5 - k$

c)  $2n + 8 = a$

a)  $f$  added to 10 equals  $m$

b)  $b$  equals 5 decreased by  $k$

c) twice  $n$  more 8 equals  $a$

- 7 Complete the following table according to the equation :  $y = 3x - 1$

X	1	3	5	7
y	2	8	14	20

- 8 Ahmed Mazen needed to earn at least 100 pounds daily to buy a mobile . find four possible amounts that Ahmed needed to earn ,then write the inequality that represented this situation .

100 , 150 , 200 -  $x \geq 100$

تم بحمد الله ،

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ " إِنَّ الدِّينَ أَمْنٌ وَعَمَلُوا الصَّالِحَاتِ إِنَّا لَا نُضِيعُ أَجْرَ مَنْ أَحْسَنَ عَمَلًا " صدق الله العظيم



**Q1: Choose the correct answer:**

- 1) The value of the expression  $3n - 2$  for  $n = 7$  is .....
  - a) 14
  - b) 19
  - c) 21
  - d) 23
- 2)  $9 \times 9 \times 9 \times 9 \times 9 = \dots\dots\dots$ 
  - a)  $5 \times 9$
  - b)  $9^5$
  - c)  $5^9$
  - d)  $81 \times 81$
- 3) The value of the expression:  $2x^2 - (3 \times 4 + 2^3) = \dots\dots\dots$  at  $x = 5$ 
  - a) 30
  - b) 50
  - c) 35
  - d) 40
- 4) The value of the expression  $(12 - x^3) \div 2$  when  $x = 2$  is .....
  - a) 10
  - b) 2
  - c) 8
  - d) 6
- 5)  $5^2 + 2^2 \times 10^2 = \dots\dots\dots$ 
  - a) 425
  - b) 2,900
  - c) 129
  - d) 410
- 6) The value of the expression  $2 + 16 - 3b$  when  $b = 4$  is .....
  - a) 4
  - b) 2
  - c) 6
  - d) 10
- 7) The first operation or exponent you perform in  $3 \times 5 + 3(2^3 - 5) - 4 \div 2$ 
  - a) parantheses
  - b) plus
  - c) multiply
  - d) exponent
- 8) The value of the expression  $5 + (x^2 - 3)$  for  $x = 3$  is .....
  - a) 6
  - b) 11
  - c) 9
  - d) 12
- 9) 7 Cube = .....
  - a)  $7 \times 7$
  - b)  $3^7$
  - c)  $7^3$
  - d) 49
- 10)  $(3^3 - 3^2) \div 3^2 = \dots\dots\dots$ 
  - a) 27
  - b) 9
  - c) 18
  - d) 2
- 11) If the price of one shirt is 120 Egyptian pounds, then the price of  $m$  number of shirts is.....
  - a)  $120m$
  - b)  $120 \div m$
  - c)  $120 + m$
  - d)  $120 - m$
- 12) Volume of a cube of edge length 5 cm is .....
  - a)  $6 \times 5$
  - b) 25
  - c)  $5^3$
  - d)  $5^2$



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- 13) If Farida saves (m) pound daily for 6 days, then her father gave her 15 pounds ,then the total amout she has now is .....
- a  $6 + 15 m$      
  b  $15 - 6 m$      
  c  $15 + 6 m$      
  d  $6 x ( m + 15)$
- 14) Two cubed subtracted from 4 squared = .....
- a  $4^2 - 2^3$      
  b  $4 x 2 - 2 x 3$      
  c  $2^3 - 4^2$      
  d  $4^3 - 2^2$
- 15) Laila saved n L.E. and her mother gave her 5 L.E. , she will have ..... L.E
- a  $n - 5$      
  b  $n + 5$      
  c  $5 n$      
  d  $5 - n$

**Q2: Complete the following:**

- 1) In  $3^8$ : 3 is called ..... and 8 is called .....
- 2) The algebraic expressions " $2 x + 3$ " and " $2 ( x + 1)$ " are expressions of ..... (equal, not equal)
- 3) The value of the expression  $9x$  (when  $x = 5$ ) is .....
- 4)  $13 - 7 + 2^3 x 3^2 =$  .....
- 5) If the base is 5 and the exponent is 3, then the exponential form of the number is .....
- 6) The value of the expression  $3 (2 h - 3) + 2$  at  $h = 2.5$  is .....
- 7) Area of the square whose side length 6 cm in the exponential form is .....
- 8) If the price of a piece of cake is 18 L.E, then the algebraic expression represent the price of n pieces is .....
- 9)  $5 x 5 x 5 x 5 =$  .....
- 10) Six squared = .....
- 11) If the side of square is (d) cm, then the perimeter is ..... cm , and its area is .....  $cm^2$



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**Q3: Answer the following:**

1) Check the following expressions where each pair is equivalent or not.

Use two values for x from your own

a.  $x + 5$  and  $3(x + 2) - 2x - 1$

---



---

b.  $2 + 8x$  and  $3 + 2(x + 4)$

---



---

2) Sandy has 200 L.E, her weekly pocket money she spends 20 L.E. daily.

- a. The algebraic expression represent that is .....
- b. The remained money after 5 days is .....
- c. The remained money by the end of two weeks is .....

3) If the ticket of entering a car park is 35L.E, and 15 L.E, for each hour you spend.

- a. Write an algebraic expression to represent the relation between the total cost and the number of hours. ( .....
- b. What is the cost of spending 5 hours in the park ? .....

4) Use order of operations and exponents to simplify each of the following expressions.

a.  $8 + 4^2 - 5 + 6(60 \div 20)^2$

---

b.  $4^2 + 5(b^2 - 3)$  for  $b = 2$

---

c.  $9 + (p^2 - 3) \div 2$  for  $p = 5$

---



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Q1: Choose the correct answer:

1) Ayman bought 4 pens for  $x$  L.E, each and he paid 24 L.E. , then  $x = \dots\dots$

- (a) 96                      (b) 8                      (c) 6                      (d) 20

2) If the equation :  $x - 3 = 1$ , then  $\frac{1}{2}x = \dots\dots\dots$

- (a) 1                      (b) 2                      (c) 3                      (d) 4

3) Paula bought  $x$  candies for 7 L.E. each He paid 35 L.E, then  $x = \dots\dots\dots$

- (a) 42                      (b) 5                      (c) 7                      (d) 28

4) If  $a + a + a + a = 32$ , then  $a = \dots\dots\dots$

- (a) 8                      (b) 9                      (c) 7                      (d) 6

5) If  $y = 36$ , then  $\frac{y}{\dots} = 9$

- (a) 3                      (b) 5                      (c) 2                      (d) 4

6) If  $4n = 12$ , then  $6n = \dots\dots\dots$

- (a) 4                      (b) 12                      (c) 18                      (d) 3

7) If  $63 \div k = 9$ , then  $k = \dots\dots\dots$

- (a) 8                      (b) 9                      (c) 7                      (d) 6

8)  $\dots\dots\dots$  is a solution of  $x < 4$

- (a) 3.96                      (b) 4                      (c) 4.15                      (d) 4.02

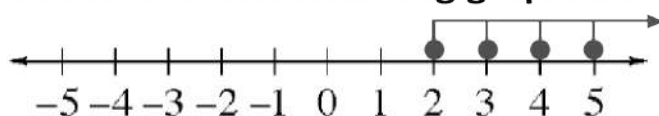
9) Number of solutions of inequality  $x > 10$  is  $\dots\dots\dots$

- (a) 0                      (b) 1                      (c) 2                      (d) infinite

10) Which of the following is not a solution of  $k > 2.5$  ?

- (a) 3                      (b) 2.7                      (c) 2.49                      (d) 4.9

11)  $\dots\dots\dots$  is a solution of the following graphed inequality.



- (a) -10                      (b) 1                      (c) 10                      (d) 0



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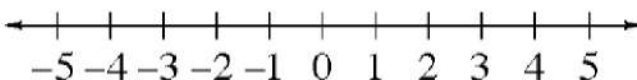


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- 12) Mohamed has 47 L.E, his friend Mina has less money than Mohamed, then Mina may has ..... L.E
- (a) 53                      (b) 47                      (c) 100                      (d) 19
- 13) All of the following are solutions of inequality  $x > -2$  except .....
- (a) -1                      (b) -3                      (c) 0                      (d) 1
- 14) ..... is a solution of  $x < -1$
- (a) 0                      (b) 1                      (c) -2                      (d) 3
- 15) Youssef can read more than 7 books monthly. Which inequality represent the number of books that Youssef read monthly ?
- (a)  $x > 7$                       (b)  $x < 7$                       (c)  $x \leq 7$                       (d)  $x \geq 7$
- 16) A number is no more than 10 can be written as .....
- (a)  $x > 10$                       (b)  $x < 10$                       (c)  $x \leq 10$                       (d)  $x \geq 10$

**Q2: Complete the following:**

- 1) A number if added to 7 the sum is 13, then the number is .....
- 2) A product of a number K and 6 is 42, then  $K =$  .....
- 3) If  $m \div 2 = 6$ , then  $\frac{1}{3} m =$  .....
- 4) Marwan read at least 5 books ,then Marwan may be read ..... book[s]
- 5) ..... is a solution of the inequality  $m \leq 6$
- 6) Write inequality that represents non-negative numbers .....
- 7) Write inequality that represents non-positive numbers .....
- 8) Write inequality that represents counting numbers .....
- 9) Write inequality that represents all values less than -5 .....
- 10) Write inequality that represents -2 and all values to the right of -2 on the number line .....
- 11) represent  $x \leq 3$  on number line:



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**Q3: Answer the following:**

1) Solve each of the following equations:

a.  $16 = n - 3$  \_\_\_\_\_

b.  $70 = 50 + t$  \_\_\_\_\_

c.  $3x + 8 = 29$  \_\_\_\_\_

d.  $3y - 5 = 7$  \_\_\_\_\_

e.  $y \div 4 = 5$  \_\_\_\_\_

2) Find three solutions for the inequality :  $x \leq -1$

\_\_\_\_\_

\_\_\_\_\_

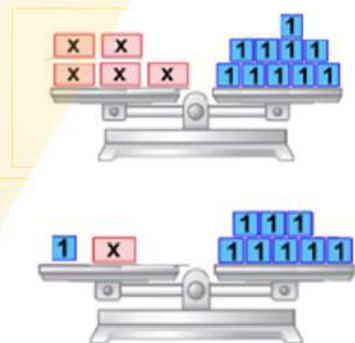
3) Write the equation that represents the following model, then find the value of x:

- Equation is .....

- Value of x = .....

- Equation is .....

- Value of x = .....



4) Represent the inequality:  $x < 2$  "where x is a rational number":



5) Name 3 solutions of each inequality. Then graph the inequality on a number line in the set of integers:

a.  $K \leq -7$

b.  $m \geq 3$

\_\_\_\_\_

\_\_\_\_\_



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**Q1: Choose the correct answer:**

- 1) "m equals the product of n and 3" in equation is .....
  - a  $m = 3n$
  - b  $m = 3 + n$
  - c  $n = 3m$
  - d  $n = m + 3$
- 2) "4 times to n added to 7 equals k" in equation is .....
  - a  $7n + 4 = k$
  - b  $7k + 4 = n$
  - c  $4n + 7 = k$
  - d  $4k + 7 = n$
- 3) In the equation :  $9a + 24 = b$ , the independent variable is .....
  - a 9
  - b a
  - c 24
  - d b
- 4) "  $k = 3 \div w$  " the independent variable is .....
  - a w
  - b k
  - c 3
  - d  $\frac{w}{3}$
- 5) "  $k = 7 \div w$  " the dependent variable is .....
  - a w
  - b k
  - c 7
  - d  $\frac{w}{7}$
- 6) The word phrase for the equation " $g = 9h$ " is .....
  - a h equals g increased by 9
  - b h equals 9 times g
  - c g equals 9 times h
  - d g equals h increased by 9
- 7) In the equation :  $y = 3x$ , if  $x = 5.1$ , then y would be .....
  - a 8.1
  - b 53.1
  - c 15.3
  - d 18.3
- 8) The ordered pair which satisfies the equation:  $y = x + 1$  is .....
  - a (0, 2)
  - b (1, 1)
  - c (2, 1)
  - d (1, 2)
- 9) In the equation:  $y = 3x + 6.4$ , if  $x = 1$ , then y would be .....
  - a 6.4
  - b 18.4
  - c 19.2
  - d 9.4
- 10) The equation which represents the table

x	1	2	3
y	3	5	7

- a  $y = x + 2$
- b  $Y = 2x$
- c  $y = 2x + 1$
- d  $y = 2x - 1$



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11) In the equation :  $y = 3x + 1$ , the ordered pair (2, a) satisfies the equation, then a = .....

- (a) 5                      (b) 6                      (c) 7                      (d) 8

12) In the equation :  $y = 2x + 1$ , if the output is 7, then the input is .....

- (a) 2                      (b) 3                      (c) 4                      (d) 5

13) In the equation :  $y = 2x + 3$ , if the input is 4 then the output is .....

- (a) 8                      (b) 12                      (c) 11                      (d) 7

14) The rule is "multiply by 6", if  $x = \frac{1}{3}$ , then y would be .....

- (a) 18                      (b) 3                      (c) 2                      (d)  $\frac{1}{2}$

**Q2: Complete the following:**

1) If the rule is "Add 9", the equation ..... so, if x is 4 then the output is .....

2) In the equation  $t = 7r$ , if  $r = 3.1$ , then t would be .....

3) x equals the sum of sixty one and y as algebraic expression is .....

4) Double x added to 4 equals y as algebraic expression is .....

5) In the rule:  $y = 4x$ , if  $x = 1.3$ , then  $y =$  .....

6) In the opposite figure:

Relation: .....

x	1	2	3	4
y	3	5	7	....

Equation:  $y =$  .....

7) In the opposite figure:

Relation: .....

x	3	2	....	6
y	9	6	12	....

Equation:  $y =$  .....



**Q3: Answer the following:**

1) Murad saves 120 pounds every month, so if the amount he saves in (x) month is (y) pounds, then

a. The equation that represent this situation is .....

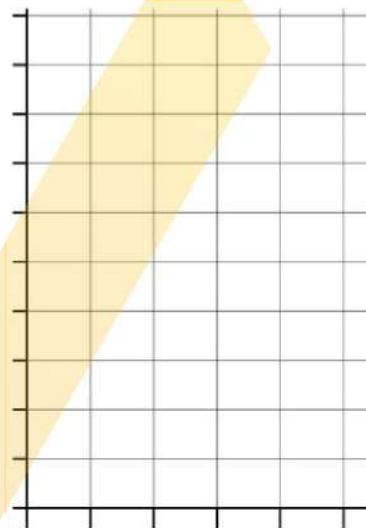
b. The independent variable is ..... the dependent variable is .....

c. what Murad saves in a year is .....

2) Complete the following tables, then make the graph.

The equation:  $y = 2 + 2x$

x	1	2	3	4
y				
(x , y)				



3) Write an equation use the variables x and y, where x is the independent, Write the equation

"multiply by 8 and add 3", then

substitute  $x = \frac{1}{4}$  to evaluate y.

4) write a verbal. phrase for each of the following equations:

a.  $w + 12 = z$

b.  $c = 8 - 6d$

c.  $t = 5s + 4$



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**Q1: Choose the correct answer:**

- |      |       |       |
|------|-------|-------|
| 1) b | 6) c  | 11) a |
| 2) b | 7) d  | 12) c |
| 3) a | 8) b  | 13) c |
| 4) b | 9) c  | 14) a |
| 5) a | 10) d | 15) b |

**Q2: Complete the following:**

- |                                    |               |
|------------------------------------|---------------|
| 1) base , exponent / power / index | 7) $6^2$      |
| 2) not equal                       | 8) $18n$      |
| 3) 45                              | 9) $5^4$      |
| 4) 78                              | 10) $6^2$     |
| 5) $5^3$                           | 11) $4d, d^2$ |
| 6) 8                               |               |

**Q3: Answer the following:**

- 1) a. at  $x = 2$ ,  $[ 2 + 5 = 7 ]$  and  $[ 12 - 4 - 1 = 7 ]$  Equivalent  
 at  $x = 1$ ,  $[ 1 + 5 = 6 ]$  and  $[ 3( 1 + 2 ) - 2 \times 1 - 1 = 6 ]$  Equivalent  
 b. at  $x = 1$  Not equivalent      at  $x = 2$  Not equivalent
- 2) a.  $200 - 20m$       b.  $200 - ( 20 \times 5 ) = 100$  L.E      c. 120 L.E
- 3) a.  $15x + 35$       b. 110 L.E
- 4) a. 73  
 b. 21  
 c. 20



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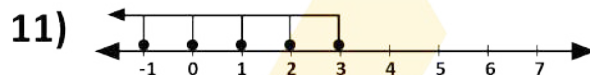
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**Q1: Choose the correct answer:**

- |      |       |       |       |
|------|-------|-------|-------|
| 1) c | 6) c  | 11) c | 16) d |
| 2) b | 7) c  | 12) d |       |
| 3) b | 8) a  | 13) b |       |
| 4) a | 9) d  | 14) c |       |
| 5) d | 10) c | 15) a |       |

**Q2: Complete the following:**

- |      |                 |
|------|-----------------|
| 1) 6 | 6) $x \geq 0$   |
| 2) 7 | 7) $x \leq 0$   |
| 3) 4 | 8) $x > 0$      |
| 4) 6 | 9) $x < -5$     |
| 5) 5 | 10) $x \geq -2$ |



**Q3: Answer the following:**

- |                                 |               |      |
|---------------------------------|---------------|------|
| 1) a. 19                        | b. 20         | c. 7 |
| d. 4                            | e. 20         |      |
| 2) -1, -3, -5 (answer may vary) |               |      |
| 3) Equation: $5x = 10$          | value of x: 2 |      |
| Equation: $x + 1 = 8$           | value of x: 7 |      |
| 4) Draw by yourself             |               |      |
| 5) a. -7, -8, -10               | b. 3, 4, 10   |      |



**Q1: Choose the correct answer:**

- |      |       |       |
|------|-------|-------|
| 1) a | 6) c  | 11) c |
| 2) c | 7) c  | 12) b |
| 3) b | 8) d  | 13) c |
| 4) a | 9) d  | 14) c |
| 5) b | 10) c |       |

**Q2: Complete the following:**

- |                    |  |
|--------------------|--|
| 1) $y = x + 4$ , 8 | 6) multiply by 2 added to 1 , $y = 2x + 1$ |
| 2) 21.7            | 7) multiply by 3 , $y = 3x$                |
| 3) $x = 61 + y$    |  |
| 4) $y = 2x + 4$    |  |
| 5) 5.2             |  |

**Q3: Answer the following:**

- 1) a.  $y = 120x$                       b.  $x, y$                       c.  $120 \times 12 = 1440$  L.E

2)

x	1	2	3	4
y	4	6	8	10
(x, y)	(1, 4)	(2, 6)	(3, 8)	(4, 10)

3)  $y = 8x + 3$                        $Y = 8x \frac{1}{4} + 3 = 5$

- 4) a. w added to 12 equals to z  
 b. 8 decreased by product of 6 and d equals to c  
 c. s multiplied by 5 added to 4 equals to t



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$$Q = U + A$$
$$P = P_0 - (V - 100)k$$

# MATH

$$C_y = C_1^{\alpha} (\alpha - \alpha_0)$$

$$T = 2\pi\sqrt{\frac{l}{g}}$$

## MODEL

1

Choose the correct answer

- 1 if we subtract 5 from the number  $x$ , we get .....
  - (A)  $5x$
  - (B)  $5-x$
  - (C)  $x-5$
  - (D)  $x+5$
- 2 Suzan saved L.E  $x$  and her father gave her L.E 10 she will have .....
  - (A)  $x-10$
  - (B)  $x+10$
  - (C)  $10x$
  - (D)  $10-x$
- 3 subtracting 3 from double a number = .....
  - (A)  $n-3$
  - (B)  $2n-3$
  - (C)  $3n+2$
  - (D)  $5n$
- 4 three times a number less two is .....
  - (A)  $3x+2$
  - (B)  $3x-2$
  - (C)  $2 \times 3x$
  - (D)  $\frac{3x}{2}$
- 5 If three times a number is added to 12, then the algebraic expression that expresses this is .....
  - (A)  $Q+12$
  - (B)  $q-12$
  - (C)  $3q+12$
  - (D)  $3q-12$
- 6 Twice the sum of a number and five is .....
  - (A)  $2y+5$
  - (B)  $2y-5$
  - (C)  $2[y+5]$
  - (D)  $2[y-5]$
- 7 Bassem is  $k$  years old now, how old will he be after 5 years?
  - (A)  $5k$
  - (B)  $5 \div k$
  - (C)  $k-5$
  - (D)  $k+5$
- 8 What operations are in the algebraic expression for "twice a number increased by three"?
  - (A) + and -
  - (B)  $x$  and -
  - (C)  $x$  and +
  - (D) + and -
- 9 The verbal expression for  $5x - 7$  is .....
  - (A) 5 multiplied by  $x$  increased by 7
  - (B) 5 multiplied by  $x$  less by 7
  - (C) 5 times a number  $x$ , less than 7
  - (D) 7 decreased by  $5x$
- 10 The verbal expression for  $3[y+4]$  is .....
  - (A) Three times  $y$  is increased by 4
  - (B) the sum of  $y$  and three times 4
  - (C)  $Y$  less 4 multiplied by 3
  - (D) the product of 3 and the sum of  $y$  and 4
- 11  $2^3 =$  .....
  - (A)  $2 \times 2$
  - (B)  $3 \times 3$
  - (C)  $3^2$
  - (D) 8
- 12  $5^4 =$  .....
  - (A)  $4^5$
  - (B)  $4 \times 3$
  - (C)  $5 \times 5 \times 5 \times 5$
  - (D)  $4 \times 4 \times 4 \times 4$
- 13 The value of the expression  $3n - 2$  for  $n=7$  is .....
  - (A) 14
  - (B) 19
  - (C) 21
  - (D) 23
- 14 The ticket of the theme park is for 25 L.E and each game inside for 30 L.E  
 First : the algebraic expression express that is .....
  - (A)  $30 + 25n$
  - (B)  $30n$
  - (C)  $55 + n$
  - (D)  $30n + 25$
 Second : the cost of entering and plying 5 games is .....
  - (A) 155
  - (B) 165
  - (C) 157
  - (D) 175
- 15  $9 \times 9 \times 9 \times 9 \times 9 =$  .....
  - (A)  $5 \times 9$
  - (B)  $9^5$
  - (C)  $5^9$
  - (D)  $81 \times 81$

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16 The first operation you perform in the expression  $5(3^2 - 2) + 7$  is .....

- (A) Add (B) multiply (C) subtract (D) exponent

17  $8 - 3 \times 2 \div (4 - 2)^2 =$  .....

- (A) 2.5 (B) 1 (C) 0.5 (D) 6.5

18 The value of the expression  $2x^2 - (3 \times 4 + 2^3) =$  ..... at  $x = 5$

- (A) 50 (B) 40 (C) 30 (D) 35

19 Which of the following does not equal 27 ?

- (A)  $3^3$  (B)  $5^2 + (30 - 4 \times 7)$  (C)  $2^4 + 3 \times 5$  (D)  $2^5 + 5$

20 Two cubed added to five squared equals .....

- (A)  $2 \times 3 + 5 \times 5$  (B)  $3^2 + 2^5$  (C)  $2^3 + 5$  (D)  $2^3 + 5^4$

21 Number of terms of the expression  $3x + 2y - 5$  .....

- (A) 2 (B) 3 (C) 4 (D) 5

22 Which of the following are like terms ?

- (A) 5, 7 (B)  $2x, x^2$  (C)  $5a, 5b$  (D)  $m^2, n^2$

**Complete :**

- If the price of a piece of tart is 18 L.E , then the algebraic expression represent the price of n pieces is .....
- The verbal form of the expression  $5 - k$  is .....
- Twice the sum of a number and three in algebraic form is .....
- If the base is 7 and the exponent is 5 then the exponential form of the number is.....
- $5 + (3^2 - 2) \times 7 =$ .....
- The value of the expression  $5(2h - 3) + 1ath = 2.5$  is .....
- $9 \times 9 \times 9 \times 9 \times 9 = 9$

**Answer the following questions**

- If the ticket of entering a car park is 25LE and 10LE for each hour you spend .  
First : write an algebraic expression to represent the relation between the total cost and the number of hours .  
.....  
Second : what is the cost of spending 5 hours in the park ?  
.....
- Are they equivalent ? examine these two expressions and determine whether they are equal . if so , consider whether they are always equal complete each task .  
 $4(x + 1)$        $3x + x$ 
  - Try to find a value for x that will make these expression equal
  - Try to find a value for x that will make the expression not equal
  - Decide if these two expressions are always equal and if they should be considered equivalent expressions .

.....  
.....  
.....

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$$P = P_0 - (v - 100)k$$

# MATH





$$C_1 = C_2(\alpha - \alpha_1)$$

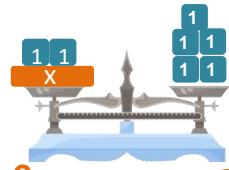
$$T = 2\pi\sqrt{\frac{l}{g}}$$

## MODEL

2

Choose the correct answer

- 1 Which of the following are like terms ?  
 (A) 5,7 (B)  $2x, x^2$  (C)  $5a, 5b$  (D)  $m^2, n^2$
- 2 The coefficient in the expression  $6-3+5x$  is .....  
 (A) 6,3 (B) x (C)  $5x$  (D) 5
- 3 Number of like terms in the expression  $4a + 4b + 5$  is .....  
 (A) 3 (B) 2 (C) 1 (D) zero
- 4 Subtract 8 from the number k in algebraic form is .....  
 (A)  $8-k$  (B)  $8+k$  (C)  $k-8$  (D)  $8k$
- 5 Sameh has 50 L.E He bought 3pens each for k L.E , then remainder is .....  
 (A) 30 (B)  $3+50k$  (C)  $50-3k$  (D)  $50+3k$
- 6 Take away twice the number k from 15 is written as .....  
 (A)  $2k-15$  (B)  $15+2k$  (C)  $15-2k$  (D)  $15-k^2$
- 7 Volume of a cube of edge length 5cm ..... $cm^3$   
 (A)  $6 \times 5$  (B) 25 (C)  $5^3$  (D)  $5^2$
- 8 Which of the following expression has the same value  $3x + 5$  at  $x = 3$   
 (A)  $3(x + 1) + 5$  (B)  $4x + 1$  (C)  $5x + 3$  (D)  $x^2 + 5$
- 9 5 cube = .....  
 (A)  $5 \times 5$  (B)  $3^5$  (C)  $5^3$  (D) 625
- 10 5 times a number less 7 is.....  
 (A)  $5b + 7$  (B)  $7-5b$  (C)  $b^2 - 7$  (D)  $5b - 7$
- 11 The first operation or exponent you perform in  $3 \times 5 + 3(2^3 - 5) - 4 \div 2$   
 (A) Parantheses (B) plus (C) multiply (D) exponent
- 12 The value of the expression  $5 + (x^2 - 3)$  for  $x = 3$  is .....  
 (A) 6 (B) 11 (C) 9 (D) 12
- 13  $7+3(\dots\dots\dots+5) - 4$ , complete to get a numeric expression .  
 (A) B (B)  $k^2$  (C)  $12 \div 2$  (D)  $x+y$
- 14 the equation that represents the opposite figure is .....  
 (A)  $X+2 = 5$  (B)  $2x = 5$  (C)  $5x=2$  (D)  $x+5=2$
- 15 The balance that represent  $3x=18$  is .....  
 (A)  (B)  (C)  (D) 
- 16 If  $x + 2 = 9$ , then  $x =$  .....  
 (A) 2 (B) 5 (C) 7 (D) 9
- 17 If  $y - 3 = 10$ , then  $y =$  .....  
 (A) 19 (B) 6 (C) 13 (D) 12

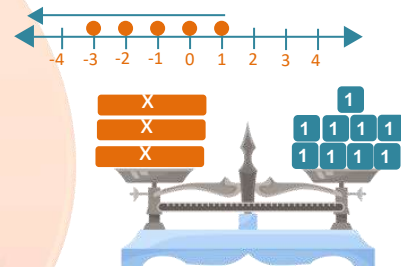


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- 18 If  $z \times 9 = 63$ , then  $z =$  .....
- (A) 7 (B) 9 (C) 8 (D) 6
- 19 If  $4x=12$ , then  $7x =$  .....
- (A) 7 (B) 14 (C) 21 (D) 84
- 20 If  $\frac{k}{8} = 7$ , then  $k =$  .....
- (A) 15 (B) 1 (C) 56 (D) 8
- 21 If  $25 \div p = 5$ , then  $p =$  .....
- (A) 20 (B) 5 (C) 30 (D) 1
- 22 If  $3x=12$ ,  $\frac{1}{2}x =$  .....
- (A) 9 (B) 6 (C) 4 (D) 2

complete the following :

- $9 \times 9 \times 9 \times 9 \times 9 = 9$
- Area of the square whose side length 7 cm in the exponential form is ..... $\text{cm}^2$
- The smallest solution of the inequality  $k \geq -4$  is .....
- If  $m - 4 = 6$ , then  $m =$  .....
- The inequality that represented by the opposite number line in the set of integers is.....
- the equation that represents the opposite model is .....
- if  $\frac{3}{4}x = \frac{3}{4}$ , then  $2x =$ .....



Answer the following questions

- Use the order of mathematical operations to simplify :  $40 + 5(3^2 - 7) + 10$

.....

.....

- Evaluate the expression :  $5x^2 + 8 \div (6-4) \div 2$  at  $x = 3$

.....

.....

- Eslam needs 300 L.E to buy pants . he does not have enough money

\* Find three possible amounts of money Eslam has

Solve each of the following equations :

- $5t = 20$
- $7 + z = 117.8$

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$$P = P - (V - 100)k$$

# MATH

$$C_y = C_y^{\alpha} (\alpha - \alpha.)$$

$$T = 2\pi r \sqrt{g|l|}$$

## MODEL

### 3

Choose the correct answer

1 A number if added to 17 the sum is 28 , then the number = .....

- (A) 11
- (B) 18
- (C) 45
- (D) 10

2 A product of a number x and 6 is 42 , then x = .....

- (A) 6
- (B) 7
- (C) 36
- (D) 48

3 Paula bought 3 pens for x L.E each he paid 15 L.E , then x = .....

- (A) 5
- (B) 12
- (C) 18
- (D) 45

4 If  $x + x + x = 18$  then  $x =$  .....

- (A) 3
- (B) 5
- (C) 6
- (D) 9

5 Which of the following is a solution of the inequality of the inequality  $m \geq -1$  ?

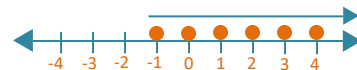
- (A) -2
- (B) -3
- (C) -4
- (D) 0

6 All of the following are solutions of the inequality  $m < -3$  except .....

- (A) -6
- (B) -10
- (C) -2
- (D) -5

7 The inequality that represents the graph below is .....

- (A)  $k > -1$
- (B)  $k \geq -1$
- (C)  $k < -1$
- (D)  $k \leq -1$



8 Number of solutions of inequality  $x > 10$  is .....

- (A) 0
- (B) 1
- (C) 2
- (D) infinite

9 ..... is a solution of  $x < 4$

- (A) 3.96
- (B) 4
- (C) 4.24
- (D) 5

10 The inequality that represents the following graph is .....

- (A)  $M > 3$
- (B)  $m \geq 3$
- (C)  $m < 3$
- (D)  $m \leq 3$



11 Ali has 2 pets , adam has more pets than ali , then adam may has .....pets

- (A) 2
- (B) 1
- (C) 3
- (D) 0

12 Mostafa can fit no more than 12 books in the box , then the inequality which represents the number of books that mostafa can fit in the box is .....

- (A)  $n \geq 12$
- (B)  $n < 12$
- (C)  $n \leq 12$
- (D)  $n > 12$

13 which of the following is not a solution of  $n > 1.5$  ?

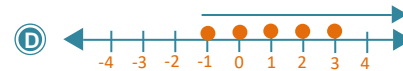
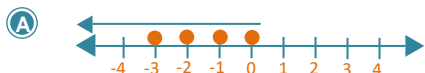
- (A) 2.5
- (B) 2
- (C) 3.5
- (D) 1

14 ..... is a solution of the following graphed inequality

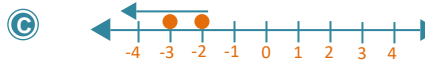
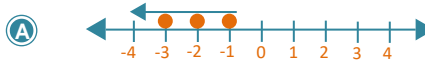
- (A) -12
- (B) 0
- (C) 1
- (D) 10



15 the inequality  $x > 0$  represented in the set of integers as .....



16 The inequality  $x \leq -1$  is represented in the set of integers as .....



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- 17 If  $x + 2 = 5$  , then  $5x =$  .....
- (A) 3 (B) 5 (C) 15 (D) 25
- 18 If  $2m = 12$  , then  $m =$  .....
- (A) -4 (B) 6 (C) 12 (D) 24
- 19 All of the following are solutions of inequality  $x > -2$  except .....
- (A) -1 (B) -3 (C) 0 (D) 1
- 20 Mohamed has 47 L.E his friend mina has less money than Mohamed , then mina may has ..... L.E
- (A) 53 (B) 47 (C) 100 (D) 19
- 21 Which of the following is not a solution of  $n \geq 2\frac{1}{4}$  ?
- (A)  $2\frac{1}{4}$  (B) 3 (C) -2 (D)  $2\frac{1}{2}$
- 22 The equation that represents the opposite figure is.....
- (A)  $X + 2 = 6$  (B)  $2x = 6$  (C)  $x + 2 = 5$  (D)  $2x = 3$



complete the following :

- if  $7x = 0$  , then  $100x =$  .....
- marwan read at least 5 books , then marwan may be read .....book (s)
- .....is a solution of the inequality  $m < -6$
- The verbal phrase for :  $w + 12 = 7$  is .....
- In the equation  $t = 7r$  , if  $r = 3.1$  , then  $t$  would be .....
- If a number (a) depends on another number (b) then the dependent variable is .....
- “ e equals f increased by 2.5 “ in algebraic equation is .....

Answer the following questions

- Name 3 solutions of each inequality . then graph the inequality on a number line in the set of integers .

$L \geq -1$        $m < 3$

- The sign shows the sale prices of some clothing on a sale rack . use the sign to determine any prices you might expect to pay For an item from this rack .

77 L.E                  100 L.E                  99 L.E  
150 L.E                  85 L.E

SALE  
STARTING  
AT  
99 L.E

- Write an equation use variable  $x$  and  $y$  , where  $x$  is the independent , write the equation “ multiply by 8 and add 3 “ , substitute  $x\frac{1}{4}$  to evaluate  $y$  .
- .....

### Choose the correct answer

- 1 If  $\frac{y}{3} = 7$ , then  $y = \dots\dots\dots$ 
  - (A) 7
  - (B) 14
  - (C) 21
  - (D) 30
- 2 A number if added to 7 the sum is 13, then the number is  $\dots\dots\dots$ 
  - (A) 5
  - (B) 20
  - (C) 6
  - (D) 15
- 3 The sign shows the speed limit for a road in kilometers per hour  
Which of the following speeds is acceptable to drive on the road ?
  - (A) 100 km/hr
  - (B) 12 km/hr
  - (C) 95 km/hr
  - (D) 80 km/hr
- 4 If  $8y = 16$ , then  $\frac{1}{2}y = \dots\dots\dots$ 
  - (A) 1
  - (B) 2
  - (C) 8
  - (D) 16
- 5 Which are the following is a solutions for the inequality  $x \geq -5$  ?
  - (A) -5
  - (B) -6
  - (C) -7
  - (D) -8
- 6 Which are the three possible solutions for the inequality  $y > 12$  ?
  - (A) 5,7,9
  - (B) 10,12,14
  - (C) 13,17,22
  - (D) 12,22,32
- 7 If  $x + 4.5 = 5.7$ , then  $x = \dots\dots\dots$ 
  - (A) 1.2
  - (B) 1.3
  - (C) 9.2
  - (D) 10.2
- 8 A number is no more than 10 can be written as  $\dots\dots\dots$ 
  - (A)  $n \leq 10$
  - (B)  $< 10$
  - (C)  $n > 10$
  - (D)  $n \geq 10$
- 9 in the equation  $x = 4y + 3$  the dependent variable is  $\dots\dots\dots$ 
  - (A) X
  - (B) 4
  - (C) y
  - (D) 3
- 10 In the equation  $9a + 24 = b$  the independent variable is  $\dots\dots\dots$ 
  - (A) 9
  - (B) a
  - (C) 24
  - (D) b
- 11 " 8 more than s equals t " in equation is  $\dots\dots\dots$ 
  - (A)  $8s=t$
  - (B)  $8t = 8$
  - (C)  $8 + s = t$
  - (D)  $8 + t = s$
- 12 "m equals the product of n and 3 " in equation is  $\dots\dots\dots$ 
  - (A) 9
  - (B) a
  - (C) 24
  - (D) b
- 13 " 4 times l added to 7 equals k " in equation is  $\dots\dots\dots$ 
  - (A)  $7l + 4 = k$
  - (B)  $7k + 4 = l$
  - (C)  $4l + 7 = k$
  - (D)  $4k + 7 = 1$
- 14 " f equals the sum of adding 11 to the product of 8 and e " in equation is  $\dots\dots\dots$ 
  - (A)  $e = 8 + 11f$
  - (B)  $e = 11 + 8f$
  - (C)  $f = 8 + 11e$
  - (D)  $f = 11 + 8e$
- 15 the word phrase for equation "  $g = 9h$  " is  $\dots\dots\dots$ 
  - (A) h equals g increased by 9
  - (B) g equals 9 times h
  - (C) h equals 9 times g
  - (D) g equals h increased by 9



16 in the opposite table ; the equation which using the variables r and t of swing where r is the number of rides and t is the total number of tickets is .....

Ride	number of tickets
Swing	11 tickets
Viking	8 tickets

- (A)  $r = 8t$
- (B)  $r = 11t$
- (C)  $t = 8r$
- (D)  $t = 11r$

- 17 In the equation :  $y = 2 + x$  , if  $x = 3$  , then  $y$  would be .....  
 (A) 2 (B) 3 (C) 4 (D) 5
- 18 In the equation :  $y = 3x$  , if  $x = 5.1$  , then  $y$  would be .....  
 (A) 8.1 (B) 53.1 (C) 15.3 (D) 18.3
- 19 The ordered pair which satisfies the equation :  $y = x + 1$  is .....  
 (A) (0,2) (B) (1,1) (C) (2,1) (D) (1,2)
- 20 In the equation :  $y = 2x$  ,  $y$  equals 8 where  $x =$  .....  
 (A) 2 (B) 4 (C) 6 (D) 8
- 21 In the equation :  $y = 3x + 6.4$  , if  $x = 1$  , then  $y$  would be .....  
 (A) 6.4 (B) 18.4 (C) 19.2 (D) 9.4
- 22 In the equation :  $y = \frac{1}{2}x + 1$  , if  $x = 12$  , then  $y$  would be .....  
 (A) 7 (B) 6 (C) 13 (D) 6.5

complete the following :

● If the rule is “ add 9 “ the equation is ..... so , if  $x$  is 4 , then  $y$  would be

● The equation which represented by the opposite table  
 .....

x	0	2	5	7	10
y	0	4	10	14	20

● “ 30 more than  $g$  equals  $h$  “ in equation is .....

● (4,.....) satisfies the rule  $y = \frac{1}{2}x + 4$

● The verbal expression of “  $2x - 5$  “ is .....

● In the algebraic expression :  $5x + 3y + 2$  , then constant is .....

● The smallest solution of the inequality  $x \geq 5$  is .....

Answer the following questions

● Write verbal phrase for each of the following

•  $P = 8I$

.....

•  $D = 3c + 9$

.....

● Complete the following table according to the equation :  $y = 2x + 1$

x	0	4	8	10	13
y	....	....	....	....	....

● Use order of operations and exponent to simplify :  $2 \times 5 + (6^2 - 24 \div 2)$

.....

.....

### Choose the correct answer

1 If the equation :  $y = x + 4$  is represented by the table

The letter a equals .....

- (A) 5                      (B) 6                      (C) 8                      (D) 2

x	0	2	3
y	4	a	7

2 The equation which represents the table

Is .....

- (A)  $Y = x + 2$                       (B)  $y = 2x$                       (C)  $y = 2x + 1$                       (D)  $y = \frac{x}{2} + 2$

x	1	2	3
y	3	5	7

3 In the equation :  $y = \frac{1}{3}x$ , if the input is 12, then the output is .....

- (A) 15                      (B) 9                      (C) 36                      (D) 4

4 In the equation :  $y = x + \frac{1}{2}$ , if the output is  $5\frac{1}{2}$ , then the input is .....

- (A) 6                      (B) 5                      (C) 22                      (D)  $4\frac{1}{2}$

5 Which of the following is an equation ?

- (A)  $20x + 1.3$                       (B)  $3 + a$                       (C) twice a number                      (D) the sum of a number and 9 equals f

6 in the equation “  $y = 1 + \frac{x}{2}$  “, if  $x = 8$ , then  $y =$  .....

- (A)  $1\frac{1}{2}$                       (B) 4                      (C) 4.5                      (D) 5

7 The independent variable in the equation “  $a = 3b + 1$  “ is .....

- (A) A                      (B) 3                      (C) b                      (D) 1

8 “ k equals the product of l and 8 “ in equation is .....

- (A)  $K = 8l$                       (B)  $k = 8 + l$                       (C)  $l = 8k$                       (D)  $l = 8 + k$

9 In the equation :  $u = 3x + 1$ , the ordered pair ( 2 , a ) satisfies the equation , the a =....

- (A) 5                      (B) 6                      (C) 7                      (D) 8

10 The dependent variable in the equation  $s = 4t + \frac{1}{8}$  is .....

- (A) S                      (B) 4                      (C) t                      (D)  $\frac{1}{8}$

11 “ r is nine times p added to 17 “ in equation is .....

- (A)  $17 = 9p + r$                       (B)  $9p = r + 17$                       (C)  $9r = p + 17$                       (D)  $r = 9p + 17$

12 The rule is “ multiply by 6 “, if  $x = \frac{1}{3}$ , then y would be .....

- (A) 18                      (B) 3                      (C) 2                      (D)  $\frac{1}{2}$

13 If  $y = 7 + 2x$ , then (....., 11) satisfies the rule .

- (A) 1                      (B) 2                      (C) 3                      (D) 4

14 In the equation :  $y = 2x + 1$ , if the input is 4 then the output is .....

- (A) 6                      (B) 7                      (C) 8                      (D) 9

15 “ 3 times m increased by 2 equals n “ in equation is .....

- (A)  $3 + m + 2 = n$                       (B)  $3m = 2n$                       (C)  $3m + n = 2$                       (D)  $3m + 2 = n$

- 16 The ordered pair which satisfies the rule :  $y = x + 2$  is .....
- (A) (0,0)                      (B) (1,2)                      (C) (2,4)                      (D) (3,6)
- 17 The verbal phrase for the rule “  $y = 3x$  “ is .....
- (A) Add3                      (B) increased by 3                      (C) subtract 3                      (D) multiply by 3
- 18 In the equation :  $y = x + 1$  , if the output is 1 , then the input is .....
- (A) 0                      (B) 1                      (C) 2                      (D) 3
- 19 If  $x + 3 = 5$  , then  $4x =$  .....
- (A) 2                      (B) 4                      (C) 8                      (D) 32
- 20 The value of the expression  $4n - 5$  if  $n = 2$  is .....
- (A) 1                      (B) 3                      (C) 37                      (D) 12
- 21 In the equation :  $4a + 9 = m$  , then independent variable is .....
- (A) 4                      (B) a                      (C) 9                      (D) m
- 22 The algebraic expression “ add 3 to the product of 5 and x “ is .....
- (A)  $3 + x$                       (B)  $5x + 3$                       (C)  $3x + 5$                       (D)  $35 + x$

complete the following :

- The equation which represented by the opposite table

x	0	2	5	7	10
y	0	4	10	14	20

- “ 30 more than g equals h “ in equation is .....
- (4,.....) satisfies the rule  $y = \frac{1}{2}x + 4$
- The verbal expression of “  $2x - 5$  “ is .....
- In the algebraic expression :  $5x + 3y + 2$  , then constant is .....
- The smallest solution of the inequality  $x \geq 5$  is .....
- The ordered pair ( 4 , ..... ) satisfies the algebraic equation :  $y = \frac{1}{2}x + 1$
- The like terms in the algebraic expression :  $2x + 3 + 5x$  are .....
- If  $x + 3 = 10$  , then  $x + 2 =$  .....
- In the rule :  $5x + 1 = y$  , then dependent variable is .....
- The verbal expression of “  $x + 10$  “ is .....
- The ordered pair ( ..... , 2 ) satisfies the algebraic equation :  $y = x + 1$
- In the algebraic expression :  $4x + 3$  , the variable is .....

Answer the following questions :

- Write an equation . use the variable x and y , where x is the independent .  
Using the rule “ add 3 “ , then substitute  $x = \frac{1}{2}$  to evaluate y

.....

.....

.....



## Units 3&amp;4

## Choose the correct answer

- 1 The number of terms in the expression :  $3x + 2$  is \_\_\_\_\_  
A. 4                      B. 3                      C. 2                      D.  $3x$
- 2 The number of terms of the expression :  $5 - 2m - 3m + 4$  is \_\_\_\_\_ terms.  
A. 5                      B.  $-2$                       C.  $-3$                       D. 4
- 3 The number of terms of the expression  $5x + 3y - 1$  is \_\_\_\_\_  
A. 5                      B. 3                      C.  $-1$                       D. 1
- 4 Which of the following are like terms ?  
A. 23 and 32                      B.  $ba$  and  $bc$                       C.  $ab^2$  and  $ac^2$                       D.  $l$  and  $m$
- 5 Which of the following are NOT like terms ?  
A.  $5b, b$                       B.  $xy, y$                       C.  $31x, 13x$                       D. 4, 5
- 6 The number of like terms in the expression :  $2x + 3x + 3$  are \_\_\_\_\_  
A. 2                      B.  $2x$  and  $3x$                       C. 3                      D. 2, 3
- 7 The like terms in the expression :  $1 + 5a + 5b + 2$  are \_\_\_\_\_  
A.  $5a$  and  $5b$                       B. 1 and 2                      C. 5 and 5                      D. 5 and 2
- 8 In the algebraic expression :  $5x - 4 + 5m + 3$ , the two like terms are \_\_\_\_\_  
A. 3 and  $5m$                       B.  $5x$  and  $5m$                       C. 3 and  $-4$                       D.  $5x$  and 3
- 9 The coefficient of the algebraic expression  $4y - 3^2$  is \_\_\_\_\_  
A. 4                      B.  $y$                       C. 3                      D. 2
- 10 The coefficient in the algebraic expression  $5 + 3x^2 + 1$  is \_\_\_\_\_  
A. 5                      B.  $3x^2$                       C. 3                      D. 1

## Units 3&amp;4

## Choose the correct answer

- 11 The constant in the algebraic expression :  $5x + 3b + 4$  is \_\_\_\_\_  
 A. 5                      B.  $3b$                       C.  $5x$                       D. 4
- 12 In the expression :  $2a + 5 + a + 1$ , which of the following is NOT true ?  
 A. 2 and 5 are constant.                      B. 5 and 1 are constant.  
 C. 2 and 1 are coefficient.                      D.  $2a$  and  $a$  are like terms.
- 13 Which of the following is an algebraic expression ? \_\_\_\_\_  
 A.  $3^2 - 4$                       B.  $5x + 3$                       C.  $29 - 3^3$                       D.  $2(4 + 5)$
- 14 Which of the following numerical expression  
 A.  $5 - x + 3y$                       B.  $xy(3 + 4)$                       C.  $2m - 3$                       D.  $4 + (5 - 3) + 1$
- 15 Which of the following is not a numerical expression ?  
 A.  $5x + 3$                       B.  $5^2 + 4$                       C.  $3 - 1^2$                       D.  $3 \times 5 + 1$
- 16  $7 + 3(\text{_____} + 5) - 4$ , complete to get a numeric expression.  
 A.  $b$                       B.  $k^2$                       C.  $12 \div 2$                       D.  $x + y$
- 17 The algebraic expression of "subtract 3 from  $k$ " is \_\_\_\_\_  
 A.  $3 - k$                       B.  $k - 3$                       C.  $k + 3$                       D.  $3k$
- 18 10 less a number written as \_\_\_\_\_  
 A.  $x - 10$                       B.  $10 - x$                       C.  $10 + x$                       D.  $\frac{x}{10}$
- 19 a number less than 5 written as \_\_\_\_\_  
 A.  $y + 5$                       B.  $y - 5$                       C.  $5y$                       D.  $5 - y$
- 20 The algebraic expression "add 3 to the product of 5 and  $x$ " is \_\_\_\_\_  
 A.  $3 + x$                       B.  $5x + 3$                       C.  $3x + 5$                       D.  $35 + x$

## Units 3&amp;4

## Choose the correct answer

- 21 Twice the difference of a number and 5 is \_\_\_\_\_  
 A.  $2y + 5$       B.  $2y - 5$       C.  $2(y + 5)$       D.  $2(y - 5)$
- 22 Take away twice the number  $k$  from 15 is written as \_\_\_\_\_  
 A.  $2k - 15$       B.  $15 + 2k$       C.  $15 - 2k$       D.  $15 - k^2$
- 23 5 times a number less 7 is \_\_\_\_\_  
 A.  $5b + 7$       B.  $7 - 5b$       C.  $b^2 - 7$       D.  $5b - 7$
- 24 Wael has  $x$  L.E., his father gave him 5 L.E., then he has \_\_\_\_\_  
 A.  $x - 5$       B.  $x + 5$       C.  $5x$       D.  $\frac{x}{5}$
- 25 Eslam is  $x$  years old now, how old will he be after 6 years?  
 A.  $x \div 6$       B.  $6x$       C.  $6 + x$       D.  $x - 6$
- 26 Laila saved  $n$  L.E. and she gave her mother 5 L.E., she will have \_\_\_\_\_ L.E.  
 A.  $n - 5$       B.  $n + 5$       C.  $5n$       D.  $5 - n$
- 27 Sameh has 50 L.E. He bought 3 pens each for  $k$  L.E., then the remainder is \_\_\_\_\_  
 A. 30      B.  $3 + 50k$       C.  $50 - 3k$       D.  $50 + 3k$
- 28 If the product of  $x$  and 5 is 45, then  $x$  equals \_\_\_\_\_  
 A.  $45 \times 5$       B.  $45 + 5$       C.  $45 - 5$       D.  $45 \div 5$
- 29 Ayman bought 3 pens for  $x$  L.E. each and he paid 18 L.E., then  $x =$  \_\_\_\_\_ L.E.  
 A. 54      B. 6      C. 21      D. 15
- 30 A number if added to 7, the sum is 13, then the number is \_\_\_\_\_  
 A. 5      B. 20      C. 6      D. 15

## Units 3&amp;4

Choose the correct answer

- 31  $2^3 =$  \_\_\_\_\_  
 A.  $2 \times 2$                       B.  $3 \times 3$                       C.  $3^2$                       D. 8
- 32  $3 \times 3 \times 3 \times 3 =$  \_\_\_\_\_  
 A.  $3 \times 4$                       B. 3 cubed                      C. 3 squared                      D.  $3^4$
- 33 Eight squared = \_\_\_\_\_  
 A.  $2 \times 8$                       B.  $8 + 2$                       C.  $8^2$                       D.  $8 \div 2$
- 34 The cube of 6 equals \_\_\_\_\_  
 A.  $3 \times 6$                       B.  $6 + 3$                       C.  $6^3$                       D.  $3^6$
- 35  $5^4 =$  \_\_\_\_\_  
 A.  $4^5$                       B.  $4 \times 5$                       C.  $5 \times 5 \times 5 \times 5$                       D.  $4 \times 4 \times 4 \times 4 \times 4$
- 36 Seven squared added to 5 equals \_\_\_\_\_  
 A.  $7^2 + 5$                       B.  $2^7 + 5$                       C.  $7 \times 2 \times 5$                       D.  $7 + 2^5$
- 37 Two cubed subtracted from five squared = \_\_\_\_\_  
 A.  $2 \times 3 + 5 \times 5$                       B.  $2^5 - 3^2$                       C.  $5^2 - 3^2$                       D.  $5^2 - 2^3$
- 38 Three cubed add to five squared equals \_\_\_\_\_  
 A.  $3 \times 3 + 5 \times 5$                       B.  $3^3 + 5^2$                       C.  $3^2 + 5^3$                       D.  $3^3 + 2^5$
- 39 Volume of a cube of edge length 5 cm is \_\_\_\_\_  $\text{cm}^3$   
 A.  $6 \times 5$                       B. 25                      C.  $5^3$                       D.  $5^2$
- 40 The value of the expression  $4n - 5$  if  $n = 2$  is \_\_\_\_\_  
 A. 1                      B. 3                      C. 37                      D. 12

## Units 3&amp;4

## Choose the correct answer

- 41 The value of the algebraic expression :  $3a + 5$  for  $a = 4$  is \_\_\_\_\_  
 A. 3                      B. 39                      C. 17                      D. 5
- 42 The value of the expression  $x + 3^2$  for  $x = 1$  is \_\_\_\_\_  
 A. 7                      B. 16                      C. 10                      D.  $3 + 1^2$
- 43 Which algebraic expression is equivalent to  $10x + 15$  ?  
 A.  $5(2x + 3)$               B.  $5(5x + 10)$               C.  $15x + 10$               D.  $2x + 3$
- 44 Which of the following is equivalent to the expression :  $5x + 3 + x$  ?  
 A.  $6x + 2$                       B.  $8x + x$                       C.  $3(2x + 1)$                       D.  $9x$
- 45 Which of the following expression has the same value of  $3x + 5$  at  $x = 3$   
 A.  $3(x + 1) + 5$               B.  $4x + 1$                       C.  $5x + 3$                       D.  $x^2 + 5$
- 46 Which expression is equivalent to  $2x + 10$  ?  
 A.  $2(x + 5)$                       B.  $12x$                       C.  $20x$                       D.  $2x + 5 + 2$
- 47 All the following expressions are equivalent except \_\_\_\_\_  
 A.  $4x + 8$                       B.  $2[2x + 4]$                       C.  $4[x + 4]$                       D.  $4[x + 2]$
- 48 The first operation you perform in the expression :  $3 + 5 - 4 + 2 \times 3^2$  is \_\_\_\_\_  
 A. subtract                      B. add                      C. multiply                      D. exponent
- 49 The first operation or exponent you perform in  $3 \times 5 + 3(2^3 - 5) - 4 \div 2$   
 A. parantheses                      B. plus                      C. multiply                      D. exponent
- 50 The first operation you perform in the expression :  $10 \div 5 + (3 - 1)^2$  is \_\_\_\_\_  
 A. add                      B. subtract                      C. exponent                      D. divide

## Units 3&amp;4

## Choose the correct answer

- 51  $8 - 4 \div 2 \times 3 =$  \_\_\_\_\_  
 A.  $5\frac{1}{3}$                       B. 3                      C. 2                      D.  $\frac{4}{6}$
- 52  $(1.5 \div 0.5)^2 + 9 - 4 =$  \_\_\_\_\_  
 A. 14                      B. 18                      C. 9                      D. 11
- 53 Which of the following is an equation ?  
 A.  $20x + 1.3$                       B.  $3 + a$   
 C. twice a number.                      D. the sum of a number and 9 equals f
- 54 If  $x - 2 = 7$ , then  $x =$  \_\_\_\_\_  
 A. 5                      B. 9                      C. 14                      D. 3.5
- 55 If  $x + 3 = 5$ , then  $4x =$  \_\_\_\_\_  
 A. 2                      B. 4                      C. 8                      D. 32
- 56 If  $3x = 27$ , then  $x =$  \_\_\_\_\_  
 A.  $27 + 3$                       B.  $27 - 3$                       C.  $27 \times 3$                       D.  $27 \div 3$
- 57 If  $\frac{x}{2} = 3$ , then  $x =$  \_\_\_\_\_  
 A. 2                      B. 3                      C. 6                      D. 1.5
- 58 If  $x + x = 12$ , then  $x =$  \_\_\_\_\_  
 A. 1                      B. 2                      C. 6                      D. 24
- 59 If  $x - 3 = 5$ , then  $\frac{1}{2}x =$  \_\_\_\_\_  
 A. 8                      B. 4                      C. 16                      D. 1

## Units 3&amp;4

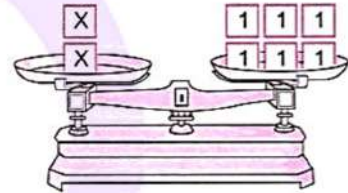
Choose the correct answer

- 60 If  $x + 4 = 7$ , then  $\frac{1}{3}x =$  \_\_\_\_\_  
 A. 1                      B. 4                      C. 3                      D. 9
- 61 If  $3x = 0$ , then  $\frac{1}{2}x =$  \_\_\_\_\_  
 A. 3                      B.  $1\frac{1}{2}$                       C. 0                      D. -3
- 62 \_\_\_\_\_ is a solution of  $x < -1$   
 A. 0                      B. 1                      C. -2                      D. 3
- 63 Which are the three possible solutions for the inequality  $z > 12$ ?  
 A. 5, 7, 9                      B. 10, 12, 14                      C. 13, 17, 22                      D. 12, 22, 32
- 64 All of the following are a solution of the inequality  $x > 3$  except \_\_\_\_\_  
 A.  $|-4|$                       B. -3                      C. 4                      D. 5
- 65 All the following are solutions of the inequality  $x < 0$  except \_\_\_\_\_  
 A. -1                      B.  $-|-3|$                       C.  $|-4|$                       D. -5
- 66 All the following are a solution of the inequality :  $x < -1$  except \_\_\_\_\_  
 A. -5                      B. -4                      C. -3                      D. -1
- 67 Which of the following in NOT a solution of  $n > 1.5$ ?  
 A. 2.5                      B. 2                      C. 1.9                      D. 1.5
- 68 A number is no more than 8 can be written as \_\_\_\_\_  
 A.  $n \leq 8$                       B.  $n < 8$                       C.  $n > 8$                       D.  $n \geq 8$

## Units 3&amp;4

## Choose the correct answer

- 69 Number of solutions of inequality  $x < -2$  is \_\_\_\_\_  
 A. -3                      B. -1                      C. 0                      D. infinite
- 70 Mohamed has 60 L.E. , his friend Ali has less money than Mohamed , then Ali may have \_\_\_\_\_  
 A. 53                      B. 61                      C. 100                      D. 60
- 71 Youssef can read more than 10 books monthly. Which inequality represent the number of books that Youssef read monthly ?  
 A.  $x > 10$                       B.  $x < 10$                       C.  $x \leq 10$                       D.  $x = 10$
- 72 The equation that represents the opposite figure is \_\_\_\_\_  
 A.  $x + 2 = 6$                       B.  $2x = 6$   
 C.  $x + 2 = 5$                       D.  $2x = 3$



## Complete the following

- 1 The number of terms of the expression :  $3 + 4z$  is \_\_\_\_\_
- 2 In the algebraic expression :  $4x + 3$  , the variable is \_\_\_\_\_
- 3 The constant in the expression  $3y + 2x - 5$  is \_\_\_\_\_
- 4 The coefficient in the algebraic expression :  $5x + 3$  is \_\_\_\_\_
- 5 The two like algebraic terms  $5 - 4x + 7^2$  are \_\_\_\_\_



## Units 3&amp;4

## Complete the following

- 6 In the algebraic expression :  $5x - 3y^2 + 4$  , the constant is \_\_\_\_\_
- 7 The coefficient of  $2 + 3a - 5$  is \_\_\_\_\_
- 8 The like terms in the algebraic expression :  $2x + 3 + 5x$  are \_\_\_\_\_
- 9 If the base is 7 and the exponent is 5, then the exponential form of the number is \_\_\_\_\_
- 10 Twice the sum of a number and three in algebraic form is \_\_\_\_\_
- 11 The algebraic expression for "a number less 7" is \_\_\_\_\_
- 12 "10 less a number" written as \_\_\_\_\_
- 13 The quotient of k and 3 written as \_\_\_\_\_
- 14 Nader saved x L.E. and his father gave him 6 L.E. , he will have \_\_\_\_\_
- 15 The age of Bassem now is x years old , then his age after 3 years is \_\_\_\_\_
- 16 Ramy works x hours daily , then the algebraic expression for the number of worked hours monthly is \_\_\_\_\_
- 17 If the price of a piece of tart is 18 L.E., then the algebraic expression represent the price of n pieces is \_\_\_\_\_
- 18 Area of the square whose side length 7 cm in the exponential form is \_\_\_\_\_  $\text{cm}^2$

## Units 3&amp;4

## Complete the following

- 19  $9 \times 9 \times 9 \times 9 \times 9 \times 9 = 9^{\quad}$
- 20 Five squared = \_\_\_\_\_
- 21 Youssef read at least 4 books monthly , then he may be read \_\_\_\_\_ book[s]
- 22 The verbal form of " $m + 0.7$ " is \_\_\_\_\_
- 23 The verbal expression for " $3x + 1$ " is \_\_\_\_\_
- 24 The verbal form of the expression :  $k - 5$  is \_\_\_\_\_
- 25 The verbal form of the expression  $5 - k$  is \_\_\_\_\_
- 26 The verbal expression of " $2x - 5$ " is \_\_\_\_\_
- 27 The verbal form of " $k^2$ " is \_\_\_\_\_
- 28 The verbal form of " $k^3 + 1$ " is \_\_\_\_\_
- 29 The first operation in the numerical expression :  
 $4 + 3 \div (5 - 1^2)$  is \_\_\_\_\_
- 30  $10 \div 5 + 2^3 - 4 =$  \_\_\_\_\_
- 31  $5^2 + 3 \times 6 \div 2 =$  \_\_\_\_\_
- 32  $13 - 7 + 2^3 \times 3^2 =$  \_\_\_\_\_

## Units 3&amp;4

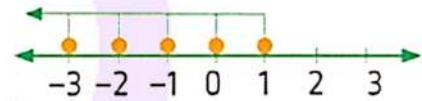
## Complete the following

- 33  $4 + 3^2 \times 2 \div (3 - 1) = \text{—————}$
- 34  $5 + (3^2 - 2) \times 7 = \text{—————}$
- 35 The values of the expression :  $x + 5$  for  $x = 4$  is  $\text{—————}$
- 36 The value of the expression :  $4(3x + 1)$  at  $x = 1$  is  $\text{—————}$
- 37 The value of the expression  $5(2h - 3) + 1$  at  $h = 2.5$  is  $\text{—————}$
- 38 If  $x + 3 = 10$ , then  $x + 2 = \text{—————}$
- 39 If  $k + 1 = 5$ , then  $k - 2 = \text{—————}$
- 40 If  $x + 3 = 5$ , then  $3x = \text{—————}$
- 41 If  $m - 2 = 7$ , then  $m + 1 = \text{—————}$
- 42 If  $4x = 20$ , then  $5x = \text{—————}$
- 43 If  $6y = 18$ , then  $\frac{1}{3}y = \text{—————}$
- 44 If  $8m = 0$ , then  $100m = \text{—————}$
- 45 If  $\frac{x}{2} = 3$ , then  $3x = \text{—————}$
- 46 If  $\frac{3}{4}x = \frac{3}{4}$ , then  $2x = \text{—————}$

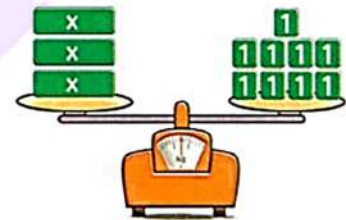
## Units 3&amp;4

## Complete the following

- 47 The smallest solution of the inequality  $k \geq -3$  is \_\_\_\_\_
- 48 The smallest solution of the inequality  $x \geq 5$  is \_\_\_\_\_
- 49 The smallest solution of the inequality  $\geq -1$  is \_\_\_\_\_
- 50 \_\_\_\_\_ is a solution of the inequality  $x > -5$
- 51 \_\_\_\_\_ is a solution of the inequality  $m < -6$
- 52 Marwan read at least 5 books , then Marwan may be read \_\_\_\_\_ book(s).
- 53 The inequality that represented by the opposite number line in the set of integers is \_\_\_\_\_



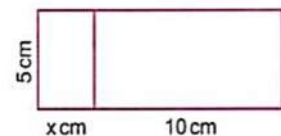
- 54 The equation that represents the opposite model is \_\_\_\_\_



- 55 Write algebraic expression to find the area of the opposite figure.

\_\_\_\_\_

\_\_\_\_\_



## Answer the following

1 Use the order of mathematical operations to simplify

a.  $40 + 5(3^2 - 7) + 10$

b.  $(17 - 11) + 3 \times 2^4 \div 2^3$

c.  $5(3^2 - 1) + 8 \div (6 - 4)$

d.  $2 \times 5 + (6^2 - 24 \div 2)$

2 Evaluate the expression :

a.  $5x^2 + 8 \div (6 - 4) \div 2$  at  $x = 3$

b.  $34 + b(4^2 \div 2)$  at  $b = 6$

3 Solve each of the following equations :

a.  $x + 5 = 17$

b.  $x - 4 = |-2|$

c.  $9x = 63$

d.  $\frac{y}{4} = 7$

e.  $x \div 5 = 7$

4 Youssef read at least 4 books.

Use  $b \geq 4$  to find three possible numbers of books that Youssef read.

## Answer the following

5 Name 2 solutions of each inequality.

a.  $x > 4$

b.  $x \leq -1$

c.  $x < 0$

d.  $x \geq 5$

6 If the ticket of entering a car park is 20 L.E. and 5 L.E. for each hour you spend.

a. Write an algebraic expression to represent the relation between total cost and the number of hours.

b. What is the cost of spending 3 hours in the park ?

7 Sandy has 200 L.E., her weekly pocket money she spends 20 L.E. daily.

a. The algebraic expression represent that is

b. The remained money after 5 days

c. The remained money by the end of the week

8 Examine these two expression and determine whether they are equal. If so, consider whether they are always equal. Complete each task.  $2(x + 1)$  and  $2x + 2$

a. Try to find a value of  $x$  that will make these expressions equal.

b. Try to find a value for  $x$  that will make the expressions not equal.

c. Decide if these two expressions are always equal and if they should be considered equivalent expressions.

## The Answers

Choose the correct answer:

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1. C  | 2. D  | 3. B  | 4. A  | 5. B  |
| 6. A  | 7. B  | 8. C  | 9. A  | 10. C |
| 11. D | 12. A | 13. B | 14. D | 15. A |
| 16. C | 17. B | 18. B | 19. D | 20. B |
| 21. D | 22. C | 23. D | 24. B | 25. C |
| 26. A | 27. C | 28. D | 29. B | 30. 6 |
| 31. D | 32. D | 33. C | 34. C | 35. C |
| 36. A | 37. D | 38. B | 39. C | 40. B |
| 41. C | 42. C | 43. A | 44. C | 45. D |
| 46. A | 47. C | 48. D | 49. D | 50. B |
| 51. C | 52. A | 53. D | 54. B | 55. C |
| 56. D | 57. C | 58. C | 59. B | 60. A |
| 61. C | 62. C | 63. C | 64. B | 65. C |
| 66. D | 67. D | 68. A | 69. D | 70. A |
| 71. A | 72. B |       |       |       |

Complete the following:

- |             |              |           |                |
|-------------|--------------|-----------|----------------|
| 1) 2        | 2) X         | 3) -5     | 4) 5           |
| 5) 5, $7^2$ | 6) 4         | 7) 3      | 8) $2X$ , $5X$ |
| 9) $7^5$    | 10) $2(X+3)$ | 11) $n-7$ | 12) $10-y$     |

## The Answers

Complete the following:

13)  $k \div 3$

14)  $X+6$

15)  $X+3$

16)  $30 X$

17)  $n18$

18)  $7^2$

19)  $9^6$

20)  $5^2$

21) 5

22) m increased by 0.7

23) 3 times number added to 1

24) k less 5

25) 5 less k

26) subtract 5 from a twice number

27) squared k

28) cubed k added to 1

29) exponents

30) 6

31) 34

32) 78

33) 13

34) 54

35) 9

36) 16

37) 11

38) 9

39) 2

40) 6

41) 10

42) 25

43) 1

44) 0

45) 18

46) 2

47) -3

48) 5

49) -1

50) -4

51) -7

52) 6

53)  $x \leq 1$

54)  $3x = 9$

55)  $5x + 50$

Answer the following:

1) a. 60

b. 12

c. 44

d. 34

2) a. 47

b. 82



## The Answers

Answer the following:

3) a. 12                      b. 6                      c. 7                      d. 28                      e. 35

4)  $b \geq 4$     number of books may be 4 , 5 or 6 books

5) a.  $x = 5$  or 6

b.  $x = -1$  or -2

c.  $x = -1$  or -2

d.  $x = 5$  or 6

6) a.  $5n + 20$

b.  $5 \times 3 + 20 = 35$     L.E.

7) a.  $200 - 20d$

b.  $200 - 20 \times 5 = 100$  L.E.

c.  $200 - 20 \times 7 = 60$  L.E.

8) at  $X = 1$

at  $X = 2$

Exp 1 :  $2(1+1) = 2 \times 2 = 4$

Exp 1 :  $2(2+1) = 2 \times 3 = 6$

Exp 2 :  $2 \times 1 + 2 = 2 + 2 = 4$

Exp 2 :  $2 \times 2 + 2 = 4 + 2 = 6$

a. Any value makes these expressions equal.

b. No value makes these expressions NOT equal.

c. The two expressions are always equal.

شرح خطوات الحل على قناة اليوتيوب



Math For Kids: Hoda Ismail

**Q1) Choose the correct answer:**

1-  $2^3$

- a)  $2 \times 2$       b) 8      c)  $3 \times 3$

2-  $9 \times 9 \times 9 \times 9 \times 9$

- a)  $5 \times 9$       b)  $5^9$       c)  $9^5$

3- The first operation you perform in the expression  $5(3^2 - 2) + 7$  is

- a) exponent      b) add      c) multiply

4- the value of the expression  $2x^2 - (3x + 2^3)$  at  $x=5$  is.

- a) 30      b) 50      c) 40

5- Two cubed added to five squared.

- a)  $3^2 + 2^5$       b)  $2^3 + 5^2$       c)  $2 \times 3 + 5 \times 5$

6- The value of the expression  $x + 3^2$  for  $x=1$  is

- a) 7      b) 16      c) 10

7- Volume of a cube of edge length 5cm is ...cm<sup>3</sup>

- a)  $6 \times 5$       b)  $5^3$       c) 25

8- Which of the following expression has the value of  $3x + 5$  at  $x=3$



a)  $3(x+1)+5$

b)  $4x+3$

c)  $x^2+5$

9- The first operation or exponent you perform in

$$3x5+3(2^3-5)-4/2$$

a) exponent

b) parentheses

c) plus

10- if  $3x=12$  then half of  $x=$

a) 9

b) 2

c) 6

11- A number if added to 17 the sum is 28 then the number is

a) 18

b) 45

c) 11

12- If  $y/2 = 8$  then fourth of  $y =$

a) 2

b) 4

c) 6

13- A product of a number  $x$  and 6 is 42 then  $x =$

a) 6

b) 7

c) 36

14- If  $x+x+x=18$  then  $x=$

a) 3

b) 5

c) 6

15- If  $y-3=10$  then  $y=$

a) 6

b) 19

c) 13



16- Which of the following is a solution of the inequality  $m \geq -1$

- a) 0                      b) -3                      c) -2

17- ... is a solution of  $x < 4$

- a) 4                      b) 5                      c) 3.96

18- Mustafa can fit no more than 12 books in the box then the inequality which represent the number of books that Mustafa can fit in the box

- a)  $n \geq 12$                       b)  $n < 12$                       c)  $n \leq 12$

19- If  $y/3 = 7$  then  $y =$

- a) 7                      b) 21                      c) 14

20- If  $3x = 0$  then half of  $x =$

- a) 5                      b) 0                      c) 3

21- in the equation  $x = 4y + 3$  the dependent variable is



a)  $y$

b)  $x$

c) 4

22- In the equation  $9a+24=b$  the independent variable

a)  $b$

b) 24

c)  $a$

23-  $f$  equals the sum of adding 11 to the product of 8 and  $e$  in equation

a)  $e=8+11f$

b)  $f=11+8e$

c)  $f=8+11e$

24- The ordered pair which satisfies the equation

$$y=x+1$$

a) (0,2)

b) (1,1)

c) (1,2)

25- in the equation  $y=1/2x+1$  if  $x=12$  then  $y =$

a) 13

b) 7

c) 6.5

26- in the equation  $y=1/3x$  if the input is 12 then the output is

a) 15

b) 9

c) 4



27- in the equation  $y=x+1/2$  if the out put is  $5 \frac{1}{2}$  then the input is

- a)22      b)5      c)6

28- if  $y=7+2x$  then  $(\dots,11)$  satisfies the rule

- a)1      b)4      c)2

**Q2) Complete your answer:**

1- 9 to the power 4.....

2-Three cubed ... ..

3- If the base is 7 and the exponent is 5 hen the exponential form of the number is.....

4-  $5+(3^2-2) \times 7 = \dots\dots\dots$

5- The value of the expression  $5(2h-3)+1$  at  $h=2.5$  is .....



6-Area of the square whose side length 7cm in the exponential form is.....

7-The first operation in the numerical expression  $4+3/(5-1^2)$  is.....

8- The value of the expression  $4(3x+1)$  at  $x=1$ .....

9-The smallest solution of the inequality  $k \geq -3$  is.....

10- If  $x/2 = 3$  then  $3x = \dots\dots\dots$

11- If  $96/y = 12$  then  $\frac{1}{2} y = \dots\dots\dots$

12- If  $m-3^2 = 1$  then  $m = \dots\dots\dots$

13- If  $x+x = 16$  then  $x-3 = \dots\dots\dots$

14- If  $\frac{1}{2} x = \frac{2}{3}$  then  $\frac{1}{3} x = \dots\dots\dots$

15- Marwan read at least 5 books then Marwan maybe read..... books

16- is a solution of the inequality  $m < -6$



- 17- 7 more than x equals y is.....
- 18- Five times c equals d.....
- 19-  $L = 3k + 9$  the dependent variable is....while the independent variable is.....
- 20- The verbal phrase for  $L = 20p$  is.....
- 21- The verbal phrase for  $w + 12 = 7$  is.....
- 22- If a number a depends on another number b then the dependent number is .....
- 23- If the rule is “add 9” the equation is.....so if  $x = 4$  then  $y =$ .....
- 24-  $(4, \dots)$  satisfies the rule  $y = \frac{1}{2}x + 4$

**Q3) use order of operation to simplify the following:**

a)  $(6+3)^2 + (9-10/5)$

b)  $(8-6/2)^2 + 3 \times 4$





**Q4) evaluate each of the following algebraic expression :**

a)  $34+b(4^2/2)$  at  $b=6$

.....

b)  $4^2+5(b^2-3)$  for  $b=2$

.....

**Q5)**

You want to buy t-shirts each t-shirt is 100 LE and you have a coupon for 40 LE off your entire purchase

a) what algebraic expression can you write to represent the situation

.....

c) what is the cost of 4 t-shirts

.....

**Q6:**

Examine these two expression and determine whether

they are equal  $3(x+1)$   $2x+x+3$

a) try to find a value of x that will make these expression equal



.....  
b) try to find a value of  $x$  that will make them not equal

.....  
c) decide if they are equivalent or not

.....  
**Q7 record each true statement about the graphs of  $x > -2$  and  $x < -2$**

- a)  $-2$  belongs to the solution set for each
- b)  $-2$  belongs to the solution set of only one of them
- c) The inequality  $x > -2$  includes all values to left of  $-2$  on the number line
- d) The inequality  $x < -2$  includes all values to right of  $-2$  on the number line
- e) They have no points in common

**Q8: complete the table then draw the graph:**

$$1 - Y = x + 1$$

x	0	1	2
y			
Ordered pair			



$$2 - Y = 2x$$

x	1	3	5
y			
Ordered pair			

Q9: write the suitable inequality that represents the following number lines:



**Q1) Choose the correct answer:**

1-  $2^3$

a)  $2 \times 2$

b) 8

c)  $3 \times 3$

2-  $9 \times 9 \times 9 \times 9 \times 9$

a)  $5 \times 9$

b)  $5^9$

c)  $9^5$

3- The first operation you perform in the expression  $5(3^2 - 2) + 7$  is

a) exponent

b) add

c) multiply

4- the value of the expression  $2x^2 - (3x + 2^3)$  at  $x=5$  is.

a) 30

b) 50

c) 40

5- Two cubed added to five squared.

a)  $3^2 + 2^5$

b)  $2^3 + 5^2$

c)  $2 \times 3 + 5 \times 5$

6- The value of the expression  $x + 3^2$  for  $x=1$  is

a) 7

b) 16

c) 10

7- Volume of a cube of edge length 5cm is ... $\text{cm}^3$

a)  $6 \times 5$

b)  $5^3$

c) 25

8- Which of the following expression has the value of  $3x + 5$  at  $x=3$



a)  $3(x+1)+5$

b)  $4x+3$

c)  $x^2+5$

9- The first operation or exponent you perform in

$$3x5+3(2^3-5)-4/2$$

a) **exponent**

b) parentheses

c) plus

10- if  $3x=12$  then half of  $x=$

a) 9

**b) 2**

c) 6

11- A number if added to 17 the sum is 28 then the number is

a) 18

b) 45

**c) 11**

12- If  $y/2 = 8$  then fourth of  $y =$

a) 2

**b) 4**

c) 6

13- A product of a number  $x$  and 6 is 42 then  $x =$

a) 6

**b) 7**

c) 36

14- If  $x+x+x=18$  then  $x=$

a) 3

b) 5

**c) 6**

15- If  $y-3=10$  then  $y=$

a) 6

b) 19

**c) 13**



16- Which of the following is a solution of the inequality  $m \geq -1$

- a) 0                      b) -3                      c) -2

17- ... is a solution of  $x < 4$

- a) 4                      b) 5                      c) 3.96

18- Mustafa can fit no more than 12 books in the box then the inequality which represent the number of books that Mustafa can fit in the box

- a)  $n \geq 12$                       b)  $n < 12$                       c)  $n \leq 12$

19- If  $y/3 = 7$  then  $y =$

- a) 7                      b) 21                      c) 14

20- If  $3x = 0$  then half of  $x =$

- a) 5                      b) 0                      c) 3

21- in the equation  $x = 4y + 3$  the dependent variable is



a) y

b) x

c) 4

22- In the equation  $9a+24=b$  the independent variable

a) b

b) 24

c) a

23- f equals the sum of adding 11 to the product of 8 and e in equation

a)  $e=8+11f$

b)  $f=11+8e$

c)  $f=8+11e$

24- The ordered pair which satisfies the equation

$$y=x+1$$

a) (0,2)

b) (1,1)

c) (1,2)

25- in the equation  $y=1/2x+1$  if  $x=12$  then  $y =$

a) 13

b) 7

c) 6.5

26- in the equation  $y=1/3x$  if the input is 12 then the output is

a) 15

b) 9

c) 4



27- in the equation  $y=x+1/2$  if the out put is  $5 \frac{1}{2}$  then the input is

a)22

b)5

c)6

28- if  $y=7+2x$  then  $(\dots,11)$  satisfies the rule

a)1

b)4

c)2

**Q2) Complete your answer:**

1- 9 to the power 4 =  $9^4$

2- Three cubed =  $3^3$

3- If the base is 7 and the exponent is 5 hen the exponential form of the number is  $7^5$

4-  $5+(3^2-2) \times 7 = 54$

5- The value of the expression  $5(2h-3)+1$  at  $h=2.5$  is 11





6-Area of the square whose side length 7cm in the

exponential form is  $7^2 \text{ cm}^2$

7-The first operation in the numerical expression

$4+3/(5-1^2)$  is **exponent**

8- The value of the expression  $4(3x+1)$  at  $x=1=$  **16**

9-The smallest solution of the inequality  $k \geq -3$  is **-3**

10- If  $x/2 = 3$  then  $3x =$  **18**

11- If  $96/y = 12$  then  $\frac{1}{2} y =$  **4**

12- If  $m-3^2 = 1$  then  $m =$  **10**

13- If  $x+x = 16$  then  $x-3 =$  **5**

14- If  $\frac{1}{2} x = \frac{2}{3}$  then  $\frac{1}{3} x =$   **$\frac{4}{9}$**

15- Marwan read at least 5 books then Marwan

maybe read **7 books** (Answers May Vary)



16-  $-7$  is a solution of the inequality  $m < -6$  (answers may vary)

17- 7 more than  $x$  equals  $y$   $y = 7 + x$

18- Five times  $c$  equals  $d$   $d = 5c$

19-  $L = 3k + 9$  the dependent variable is  $L$  while the independent variable is  $k$ .

20- The verbal phrase for  $L = 20p$  is 20 times  $p$  is equal to  $L$ .

21- The verbal phrase for  $w + 12 = 7$  is  $w$  added to 12 equals 7.

22- If a number  $a$  depends on another number  $b$  then the dependent number is  $a$

23- If the rule is “add 9” the equation is  $y = x + 9$  so if  $x = 4$  then  $y = 13$

24-  $(4, 6)$  satisfies the rule  $y = \frac{1}{2}x + 4$



**Q3) use order of operation to simplify the following:**

a)  $(6+3)^2 + (9-10/5) = (9)^2 + (9-2) = 81 + 7 = 88$

b)  $(8-6/2)^2 + 3 \times 4 = (8-3)^2 + 12 = 5^2 + 12 = 25 + 12 = 37$

**Q4) evaluate each of the following algebraic expression :**

a)  $34 + b(4^2/2)$  at  $b=6$

$34 + b(16/2)$

$34 + b(8) = 34 + 6(8) = 34 + 48 = \underline{82}$

b)  $4^2 + 5(b^2 - 3)$  for  $b=2$

$16 + 5(2^2 - 3) = 16 + 5(4 - 3) = 16 + 5 \times 1 = 16 + 5 = \underline{21}$

**Q5)**

You want to buy t-shirts each t-shirt is 100 LE and you have a coupon for 40 LE off your entire purchase

a) what algebraic expression can you write to represent the situation



$$y = 100x - 40$$

since,  $y$  total cost for t-shirts,  $x$  number of t-shirts to buy

b) what is the cost of 4 t-shirts

$$y = (100 \times 4) - 40 = 400 - 40 = 360 \text{ LE}$$

**Q6:**

Examine these two expressions and determine whether they are equal  $3(x+1)$   $2x+x+3$

a) try to find a value of  $x$  that will make these expressions equal

$$\text{at } x = 2$$

$$3(2+1) = 3 \times 3 = \underline{9}$$

$$(2 \times 2) + 2 + 3 = 4 + 2 + 3 = \underline{9}$$

b) try to find a value of  $x$  that will make them not equal

$$\text{at } x = 3$$

$$3(3+1) = \underline{12}$$



$$(2 \times 3) + 3 + 3 = 6 + 3 + 3 = \underline{12}$$

**There is no value that make them not equal**

c) decide if they are equivalent or not

**they are equivalent**

**Q7 record each true statement about the graphs of**

**$x > -2$  and  $x < -2$**

a)  $-2$  belongs to the solution set for each

b)  $-2$  belongs to the solution set of only one of them

c) The inequality  $x > -2$  includes all values to left of  $-2$  on the number line

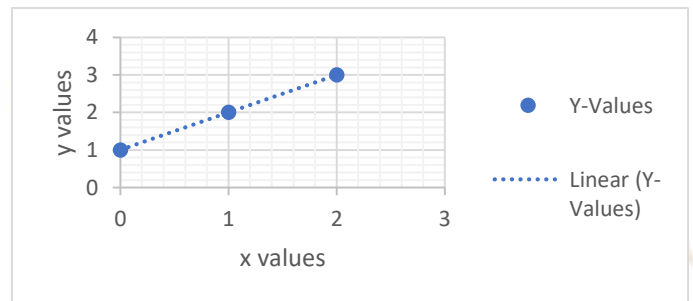
d) The inequality  $x < -2$  includes all values to right of  $-2$  on the number line

**e) They have no points in common**

**Q8: complete the table then draw the graph:**

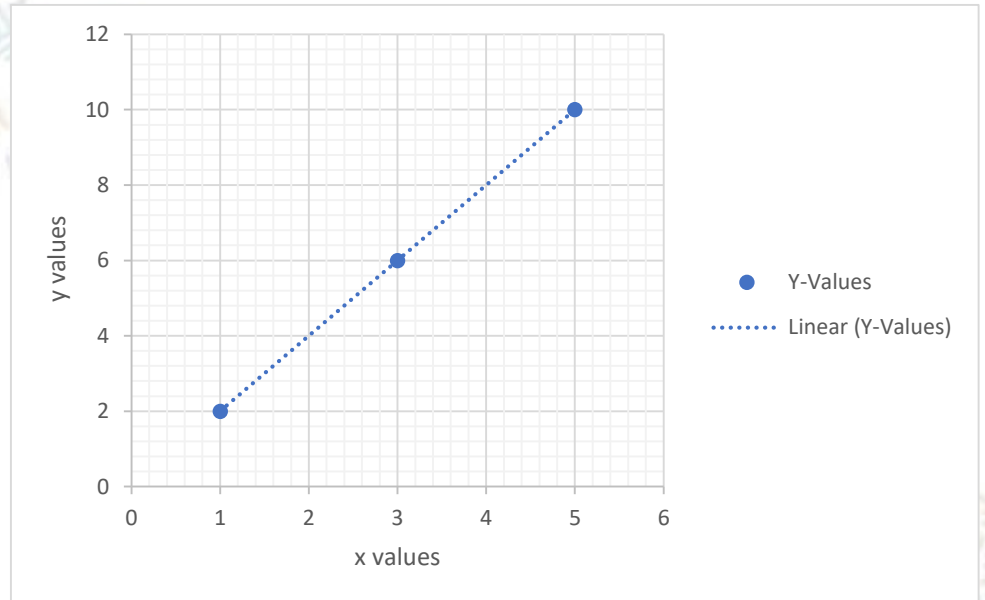
$$1 - Y = x + 1$$

x	0	1	2
y	1	2	3
Ordered pair	(0,1)	(1,2)	(2,3)



$$2 - Y = 2x$$

x	1	3	5
y	2	6	10
Ordered pair	(1,2)	(3,6)	(5,10)



Q9: write the suitable inequality that represents the following number lines:



$$X \geq 0 \text{ or } X > -1$$



**QUESTION 1** Choose the correct answer.

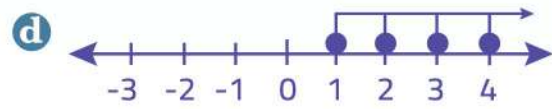
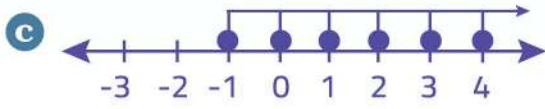
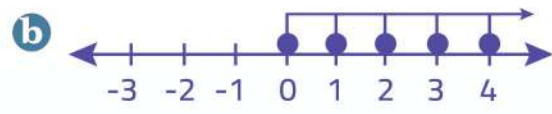
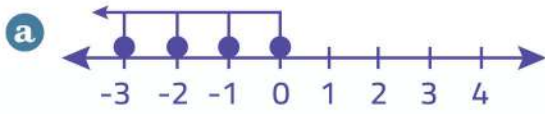
- 1  $6 \times 6 \times 6 = \dots\dots\dots$   
a  $3 \times 6$       b  $6^3$       c  $3^6$       d 18
- 2  $5 \times 5 \times 5 \times 5 = \dots\dots\dots$   
a  $4^5$       b  $4 \times 5$       c  $5^4$       d 20
- 3 5 cubed =  $\dots\dots\dots$   
a  $5 \times 5$       b  $5^3$       c 625      d  $3^5$
- 4  $2^3 = \dots\dots\dots$   
a  $2 \times 2$       b  $3 \times 3$       c  $3^2$       d 8
- 5 Eight squared =  $\dots\dots\dots$   
a  $2 \times 8$       b  $8 + 2$       c  $8^2$       d  $8 \div 2$
- 6 Two cubed added to five squared equals  $\dots\dots\dots$   
a  $2 \times 3 + 5 \times 5$       b  $3^2 + 2^5$       c  $2^3 + 5^2$       d  $2^3 + 5^4$
- 7 Volume of a cube of edge length 5 cm is  $\dots\dots\dots$   $\text{cm}^3$   
a  $6 \times 5$       b 25      c  $5^3$       d  $5^2$
- 8 Which of the following does not equal 27 ?  
a  $2^5 + 5$       b  $3^3$       c  $5^2 + (30 - 4 \times 7)$       d  $2^4 + 3 \times 5 - 4$
- 9 The first operation in the numerical expression :  $4 \times 2 + 3(5^3 - 12) - 4 \div 2$   
a parantheses      b plus      c exponent      d multiply
- 10 The value of the expression  $5 + (x^2 - 3)$  for  $x = 3$  is  $\dots\dots\dots$   
a 6      b 11      c 9      d 12
- 11  $7 + 3(\dots\dots\dots + 5) - 4$ , complete to get a numeric expression.  
a b      b  $12 \div 2$       c  $x + y$       d  $a - b$
- 12 Which of the following expression has the same value of  $3x + 5$  at  $x = 3$   
a  $3(x + 1) + 5$       b  $4x + 1$       c  $5x + 3$       d  $x^2 + 5$

- 13 The value of the expression  $x + 3^2$  for  $x = 1$  is .....
- a 7                      b 16                      c 10                      d  $3 + 1^2$
- 14 The value of the expression  $4n - 5$  if  $n = 2$  is .....
- a 1                      b 3                      c 37                      d 12
- 15 Which algebraic expression is equivalent to  $10x + 15$  ?
- a  $5(2x + 3)$                       b  $5(5x + 10)$                       c  $15x + 10$                       d  $2x + 3$
- 16 Which algebraic expression is equivalent to  $5x + 3 + x$  ?
- a  $6x + 2$                       b  $8x + x$                       c  $3(2x + 1)$                       d  $9x$
- 17 If  $x + 2 = 9$ , then  $x =$  .....
- a 2                      b 9                      c 5                      d 7
- 18 If  $y - 3 = 10$ , then  $y =$  .....
- a 19                      b 6                      c 13                      d 12
- 19 If  $4z = 12$ , then  $7z =$  .....
- a 7                      b 14                      c 21                      d 84
- 20 If  $\frac{k}{8} = 7$ , then  $k =$  .....
- a 15                      b 1                      c 56                      d 8
- 21 If  $25 \div m = 5$  then  $m =$  .....
- a 20                      b 5                      c 30                      d 1
- 22 If  $3x = 12$ , then  $\frac{1}{2}x =$  .....
- a 9                      b 6                      c 4                      d 2
- 23 If  $x + x + x + x = 12$ , then  $x =$  .....
- a 3                      b 6                      c 5                      d 4
- 24 A number if added to 17 the sum is 28, then the number = .....
- a 11                      b 18                      c 45                      d 12

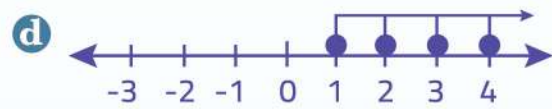
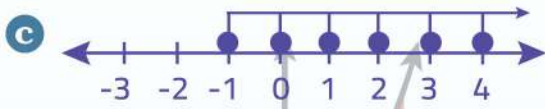
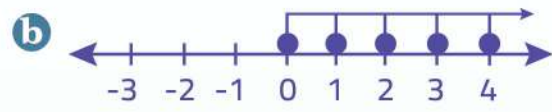
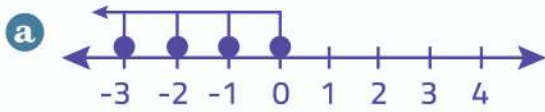


- 25 A product of a number  $x$  and 6 is 42 , then  $x =$  .....
- a 6                      b 7                      c 36                      d 48
- 26 ..... is a solution of  $x < -1$
- a 0                      b 1                      c -2                      d 3
- 27 ..... is a solution of  $x < 4$
- a 3.96                      b 4                      c 4.12                      d 5
- 28 All of the following are a solution of the inequality  $x > 3$  except .....
- a  $|-4|$                       b -3                      c 4                      d 5
- 29 Youssef can read more than 10 books monthly. Which inequality represent the number of books that Youssef read monthly ?
- a  $x > 10$                       b  $x < 10$                       c  $x \leq 10$                       d  $x \geq 10$
- 30 Mostafa can fit no more than 12 books in the box , then the inequality which represents the number of books that Mostafa can fit in the box is
- a  $n > 12$                       b  $n < 12$                       c  $n \leq 12$                       d  $n \geq 12$
- 31 Ali has 2 pets,Adam has more pets than Ali , then Adam may has ..... pets.
- a 2                      b 1                      c 3                      d 0
- 32 Number of solutions of inequality  $x > 10$  is .....
- a 0                      b 1                      c 2                      d infinite
- 33 The inequality that represents the following graph is .....
- 
- a  $x > 3$                       b  $x < 3$                       c  $x \leq 3$                       d  $x \geq 3$
- 34 ..... is a solution of the following graphed inequality
- 
- a -10                      b 0                      c 1                      d 10

35 The inequality  $x \geq -1$  is represented in the set of integers as .....



36 The inequality  $x \geq -1$  is represented in the set of natural as .....



37 A number is no more than 6 can be written as .....

- a  $x > 6$       b  $x < 6$       c  $x \leq 6$       d  $x \geq 6$

38 In the equation :  $x = 4y + 3$ , the dependent variable is .....

- a x      b y      c 3      d 4

39 In the equation :  $9a + 24 = b$ , the independent variable is .....

- a 9      b a      c 24      d b

40 In the algebraic equation :  $3m + 1 = n$ , the independent variable is .....

- a 3      b m      c 1      d n

41 The algebraic equation of "9 more than a equals b" is .....

- a  $b = a - 9$       b  $a + 9 = b$       c  $b = 9 - a$       d  $b = 9a$

42 "f equals the sum of adding 11 to the product of 8 and e" in equation is .....

- a  $e = 8 + 11f$       b  $e = 11 + 8f$       c  $f = 8 + 11e$       d  $f = 11 + 8e$

43 The word phrase for the equation " $g = 9h$ " is .....

- a h equals g increased by 9      b h equals 9 times g  
c g equals 9 times h      d g equals h increased by 9

- 44 "3 times m increased by 2 equals n" in equation is .....
- a**  $3 + m + 2 = n$     **b**  $3 m = 2 n$     **c**  $3 m + n = 2$     **d**  $3 m + 2 = n$
- 45 "r is nine times p added to 17" in equation is .....
- a**  $17 = 9 p + r$     **b**  $9 p = r + 17$     **c**  $9 r = p + 17$     **d**  $r = 9 p + 17$
- 46 In the equation :  $y = 3 x$  , if  $x = 5.1$  , then y would be .....
- a** 8.1    **b** 53.1    **c** 15.3    **d** 18.3
- 47 The ordered pair which satisfies the equation :  $y = x + 1$  is .....
- a** (0 , 2)    **b** (1 , 1)    **c** (2 , 1)    **d** (1 , 2)
- 48 The ordered pair which satisfies the equation :  $y = x + 2$  is .....
- a** (0 , 0)    **b** (1 , 2)    **c** (2 , 4)    **d** (3 , 6)
- 49 The ordered pair which satisfies the equation :  $y = 2x + 1$  is .....
- a** (1 , 0)    **b** (2 , 1)    **c** (0 , 1)    **d** (1 , 1)
- 50 In the equation :  $y = 3 x + 1$  , the ordered pair (2 , a) satisfies the equation , then a = .....
- a** 5    **b** 6    **c** 7    **d** 8
- 51 (4 , ..... ) satisfies the rule  $y = 0.5 x + 4$
- a** 4    **b** 2    **c** 6    **d** 8
- 52 If  $y = 7 + 2 x$  , then ( ..... , 11) satisfies the rule
- a** 1    **b** 2    **c** 3    **d** 4
- 53 In the equation :  $y = 2 x + 1$  , if the input is 4 then the output is .....
- a** 6    **b** 7    **c** 8    **d** 9
- 54 In the equation :  $y = x + 1$  , if the output is 1 , then the input is .....
- a** 0    **b** 1    **c** 2    **d** 3
- 55 In the rule  $y = x + 4$  , if  $x = 1$  , then y would be .....
- a** 3    **b** 5    **c** 4    **d** 2

**QUESTION 2** Complete.

- 1 If the base is 7 and the exponent is 5, then the exponential form of the number is .....
- 2  $7 \times 7 \times 7 \times 7 = 7$  .....
- 3 Five squared in exponential form is .....
- 4 Three cubed in exponential form is = .....
- 5 The first operation in the numerical expression :  $4 + 3 \div (5 - 1^2)$  is .....
- 6 The first operation you perform in the expression :  $10 \div 5 + (3 - 1)^2$  is .....
- 7  $13 - 7 + 2^3 \times 3^2 =$  .....
- 8 The value of the expression :  $4(3x + 1)$  at  $x = 1$  is .....
- 9 The value of the expression  $3n - 2$  for  $n = 10$  is.....
- 10 The value of the expression  $5(2h - 3) + 1$  at  $h = 2.5$  is.....
- 11 Area of the square whose side length 7 cm in the exponential form is .....  $\text{cm}^2$
- 12 Volume of a cube of edge length 3 cm in the exponential form is .....  $\text{cm}^3$
- 13 If  $x + 5 = 11$  , then  $x =$  .....
- 14 If  $m - 2 = 7$  ,then  $m + 1 =$  .....
- 15 If  $4y = 12$  , then  $y + 5 =$  .....
- 16  $17x = 0$  , then  $10x =$  .....
- 17 If  $m - 3^2 = 2$  , then  $m =$  .....

# November Revision

Maths

Grade 6

1st Term

2024



18 If  $\frac{x}{2} = 3$ , then twice  $x =$  .....

19 If  $\frac{1}{4}x = \frac{3}{4}$ , then  $x =$  .....

20 If  $y \div 2 = 8$ , then  $\frac{1}{4}y =$  .....

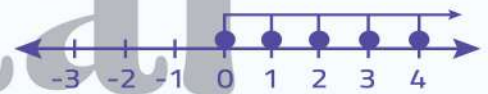
21 If  $y + y = 16$ , then  $y =$  .....

22 The smallest solution of the inequality  $x \geq -4$  is .....

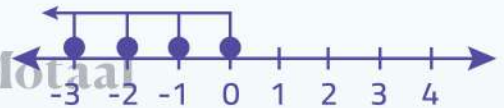
23 The smallest solution of the inequality  $y \geq -1$  is .....

24 ..... is a solution of the inequality  $m < -6$

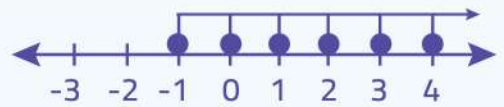
25 The inequality that represented by the opposite number line in the set of natural numbers is .....



26 The inequality that represented by the opposite number line in the set of integers is .....



27 The inequality that represented by the opposite number line in the set of integers is .....



28 A number is no more than 5 in inequality is .....

29 "e equals f increased by 2.5" in algebraic equation is .....

30 The verbal phrase for:  $w + 12 = 7$  is .....

31 If the rule is "Add 9", the equation is .....  
so, if  $x$  is 4, then  $y$  would be .....



32 The equation which represented by the opposite table is .....

X	0	2	5	7	10
Y	0	4	10	14	20

33 The equation which represented by the opposite table is .....

X	1	2	3	4	8
Y	3	5	7	9	17

34  $(4, \dots)$  satisfies the rule  $y = 3x + 1$

35  $(0, \dots)$  satisfies the rule  $y = \frac{3}{4}x + 2$

36  $(\dots, 2)$  satisfies the rule  $y = x + 2$

QUESTION 3 Essay Questions.

1 If the ticket of entering a car park is 25 L.E. and 10 LE. for each hour you spend.

**First :** Write an algebraic expression to represent the relation between the total cost and the number of hours.

**Second :** What is the cost of spending 5 hours in the park ?

2 Use the order of mathematical operations to simplify :  $40 + 5(3^2 - 7) + 10$

3 Evaluate the expression :  $2x^2 - (3 \times 4 + 2^3)$  at  $x = 5$

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3 Evaluate the expression :  $5x^2 + 8 + (6 - 4) + 2$  at  $x = 3$

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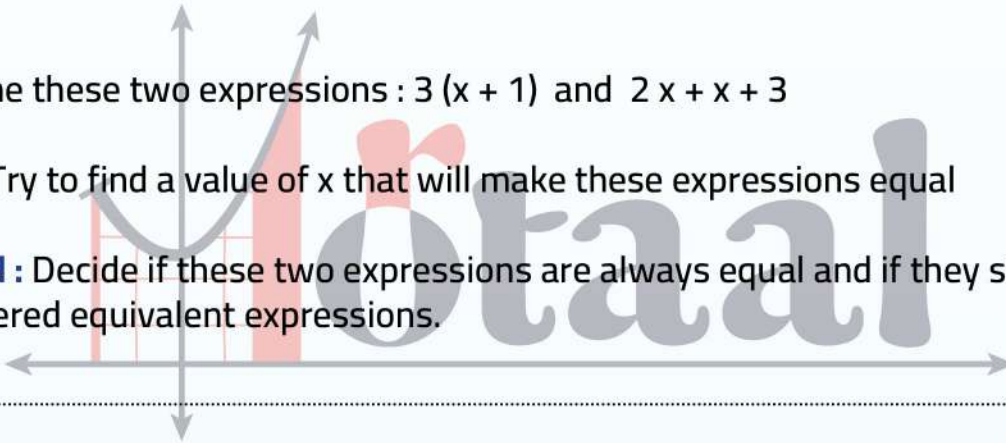
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4 Examine these two expressions :  $3(x + 1)$  and  $2x + x + 3$

**First :** Try to find a value of  $x$  that will make these expressions equal

**Second :** Decide if these two expressions are always equal and if they should be considered equivalent expressions.



Mr Ahmed Abdel Motaal

5 Examine these two expressions :  $4(x + 1)$  and  $3x + x$

**First :** Try to find a value for  $x$  that will make the expressions not equal

**Second :** Decide if these two expressions are always equal and if they should be considered equivalent expressions.

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6 Solve each of the following equations :

a  $4t = 20$

b  $7 + x = 17.8$

c  $15 - y = 9$

---



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7 Name 3 solutions of each inequality. Then graph the inequality on a number line in the set of integers.

a  $x \geq -2$

b  $y < 1$

---



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8 Write a verbal phrase for each of the following:

a  $x = 2y$

b  $3c + 2 = d$

---



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9 Write an equation use the variables  $x$  and  $y$ , where  $x$  is the independent

Write the equation "multiply by 8 and add 3", substitute  $x = \frac{1}{4}$  to evaluate  $y$ .

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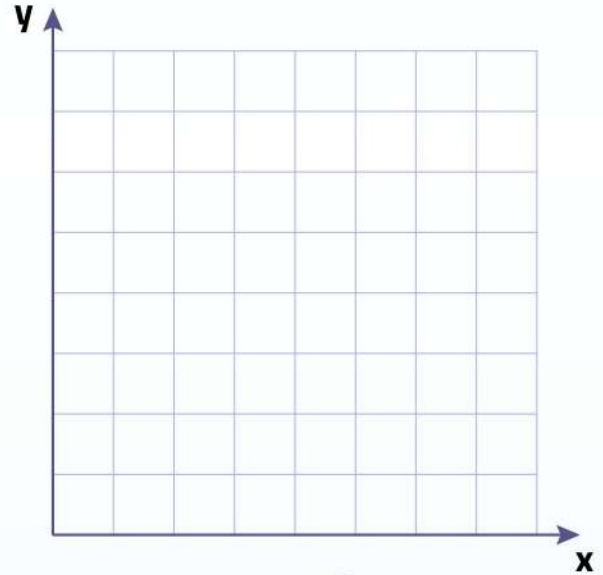
10 Complete the following table according to the equation :  $y = 2x + 1$

x	0	2	5	7	15
y					



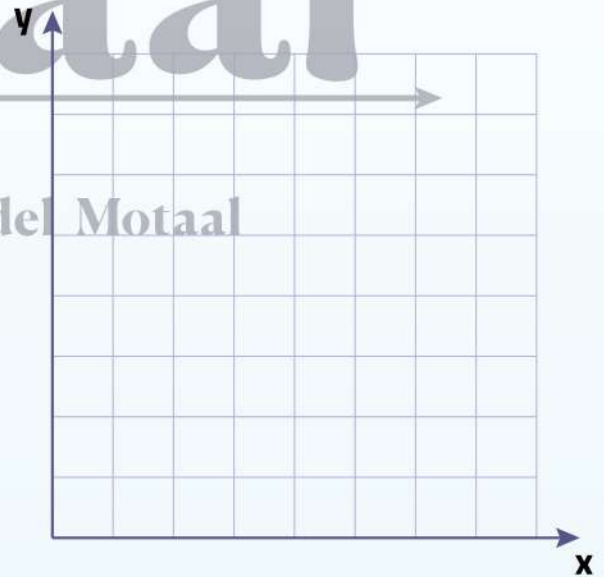
- 11 Complete the following table according to the equation :  $y = 2x$ , then make the graph.

x	0	1	2
y			
(x, y)			



- 12 Complete the following table according to the equation :  $y = 3x + 1$ , then make the graph.

x	0	1	2
y			
(x, y)			



Mr Ahmed Abdel Motaal

With My Best Wishes 😊

**QUESTION 1** Choose the correct answer.**Answers**

- 1  $6 \times 6 \times 6 = \dots\dots\dots$   
 a  $3 \times 6$        b  $6^3$        c  $3^6$        d 18
- 2  $5 \times 5 \times 5 \times 5 = \dots\dots\dots$   
 a  $4^5$        b  $4 \times 5$        c  $5^4$        d 20
- 3 5 cubed =  $\dots\dots\dots$   
 a  $5 \times 5$        b  $5^3$        c 625       d  $3^5$
- 4  $2^3 = \dots\dots\dots$   
 a  $2 \times 2$        b  $3 \times 3$        c  $3^2$        d 8
- 5 Eight squared =  $\dots\dots\dots$   
 a  $2 \times 8$        b  $8 + 2$        c  $8^2$        d  $8 \div 2$
- 6 Two cubed added to five squared equals  $\dots\dots\dots$   
 a  $2 \times 3 + 5 \times 5$        b  $3^2 + 2^5$        c  $2^3 + 5^2$        d  $2^3 + 5^4$
- 7 Volume of a cube of edge length 5 cm is  $\dots\dots\dots$   $\text{cm}^3$   
 a  $6 \times 5$        b 25       c  $5^3$        d  $5^2$
- 8 Which of the following does not equal 27?  
 a  $2^5 + 5$        b  $3^3$        c  $5^2 + (30 - 4 \times 7)$        d  $2^4 + 3 \times 5 - 4$
- 9 The first operation in the numerical expression :  $4 \times 2 + 3(5^3 - 12) - 4 \div 2$   
 a parantheses       b plus       c exponent       d multiply
- 10 The value of the expression  $5 + (x^2 - 3)$  for  $x = 3$  is  $\dots\dots\dots$   
 a 6       b 11       c 9       d 12
- 11  $7 + 3(\dots\dots\dots + 5) - 4$ , complete to get a numeric expression.  
 a b       b  $12 \div 2$        c  $x + y$        d  $a - b$
- 12 Which of the following expression has the same value of  $3x + 5$  at  $x = 3$   
 a  $3(x + 1) + 5$        b  $4x + 1$        c  $5x + 3$        d  $x^2 + 5$

# November Revision

Maths

Grade 6

1st Term

2024



- 13 The value of the expression  $x + 3^2$  for  $x = 1$  is .....
- a 7       b 16       c 10       d  $3 + 1^2$
- 14 The value of the expression  $4n - 5$  if  $n = 2$  is .....
- a 1       b 3       c 37       d 12
- 15 Which algebraic expression is equivalent to  $10x + 15$  ?
- a  $5(2x + 3)$        b  $5(5x + 10)$        c  $15x + 10$        d  $2x + 3$
- 16 Which algebraic expression is equivalent to  $5x + 3 + x$  ?
- a  $6x + 2$        b  $8x + x$        c  $3(2x + 1)$        d  $9x$
- 17 If  $x + 2 = 9$ , then  $x =$  .....
- a 2       b 9       c 5       d 7
- 18 If  $y - 3 = 10$ , then  $y =$  .....
- a 19       b 6       c 13       d 12
- 19 If  $4z = 12$ , then  $7z =$  .....
- a 7       b 14       c 21       d 84
- 20 If  $\frac{k}{8} = 7$ , then  $k =$  .....
- a 15       b 1       c 56       d 8
- 21 If  $25 \div m = 5$  then  $m =$  .....
- a 20       b 5       c 30       d 1
- 22 If  $3x = 12$ , then  $\frac{1}{2}x =$  .....
- a 9       b 6       c 4       d 2
- 23 If  $x + x + x + x = 12$ , then  $x =$  .....
- a 3       b 6       c 5       d 4
- 24 A number if added to 17 the sum is 28, then the number = .....
- a 11       b 18       c 45       d 12

25 A product of a number  $x$  and 6 is 42 , then  $x =$  .....

- a 6                       b 7                       c 36                       d 48

26 ..... is a solution of  $x < -1$

- a 0                       b 1                       c -2                       d 3

27 ..... is a solution of  $x < 4$

- a 3.96                       b 4                       c 4.12                       d 5

28 All of the following are a solution of the inequality  $x > 3$  except .....

- a  $|-4|$                        b -3                       c 4                       d 5

29 Youssef can read more than 10 books monthly. Which inequality represent the number of books that Youssef read monthly ?

- a  $x > 10$                        b  $x < 10$                        c  $x \leq 10$                        d  $x \geq 10$

30 Mostafa can fit no more than 12 books in the box , then the inequality which represents the number of books that Mostafa can fit in the box is

- a  $n > 12$                        b  $n < 12$                        c  $n \leq 12$                        d  $n \geq 12$

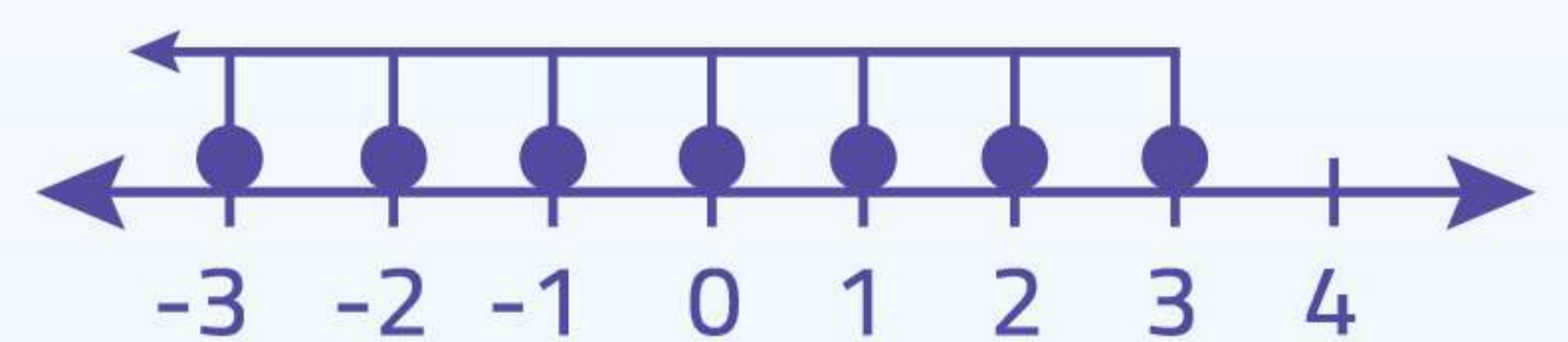
31 Ali has 2 pets,Adam has more pets than Ali , then Adam may has ..... pets.

- a 2                       b 1                       c 3                       d 0

32 Number of solutions of inequality  $x > 10$  is .....

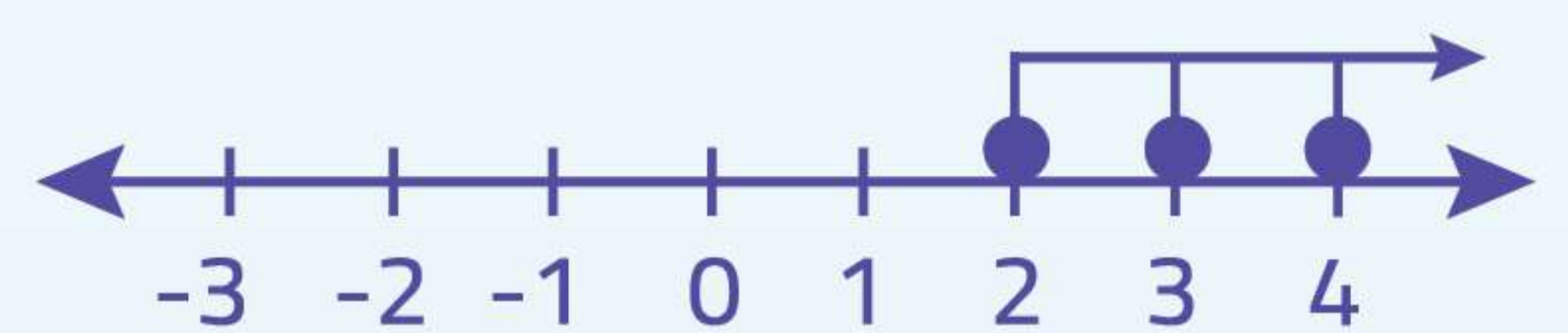
- a 0                       b 1                       c 2                       d infinite

33 The inequality that represents the following graph is .....



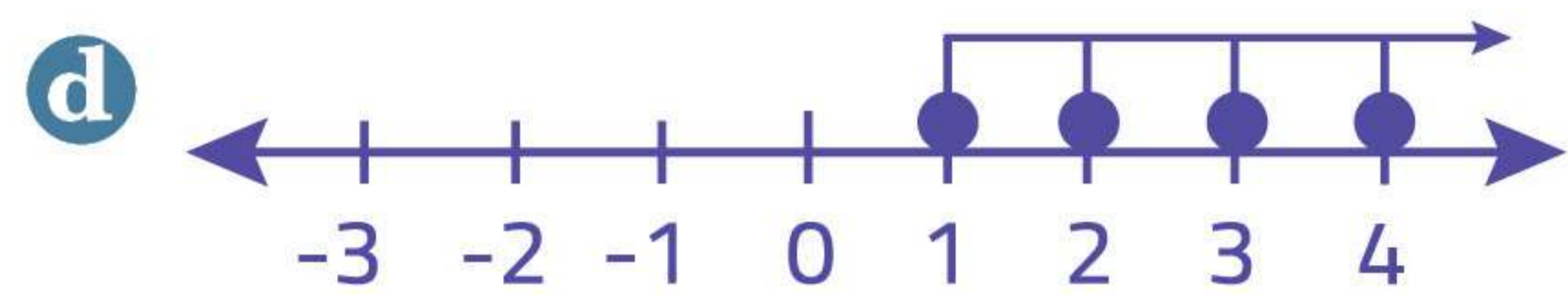
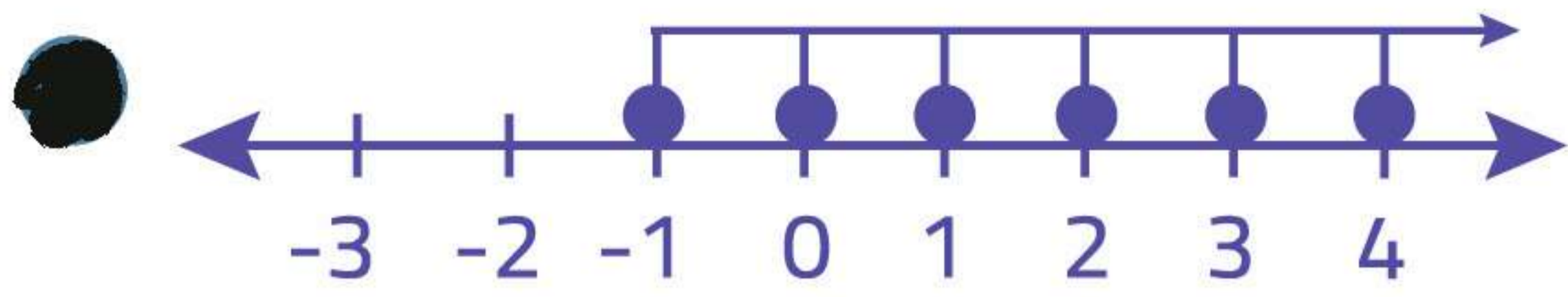
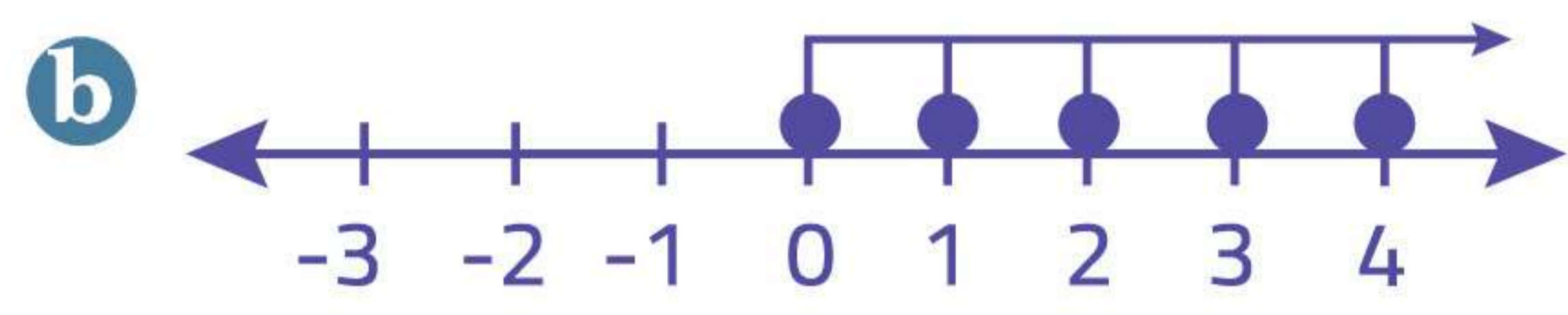
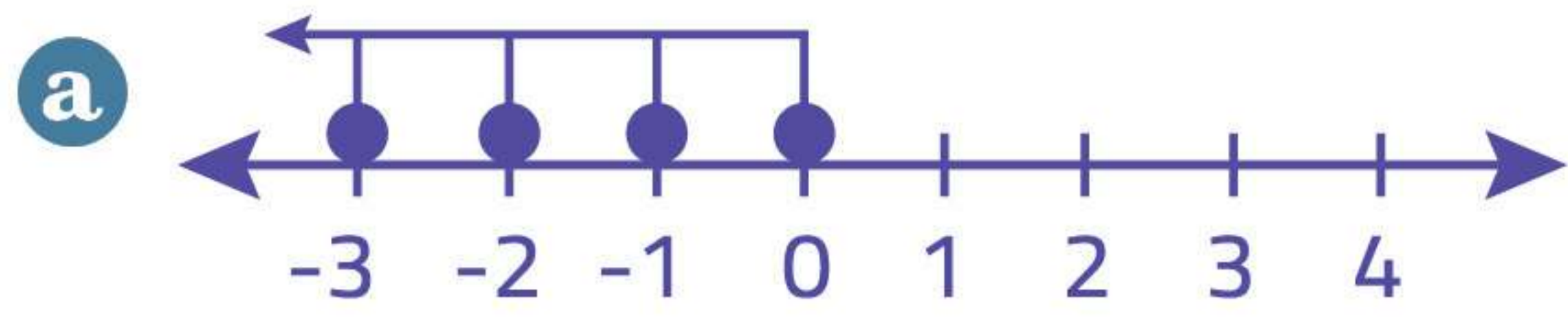
- a  $x > 3$                        b  $x < 3$                        c  $x \leq 3$                        d  $x \geq 3$

34 ..... is a solution of the following graphed inequality

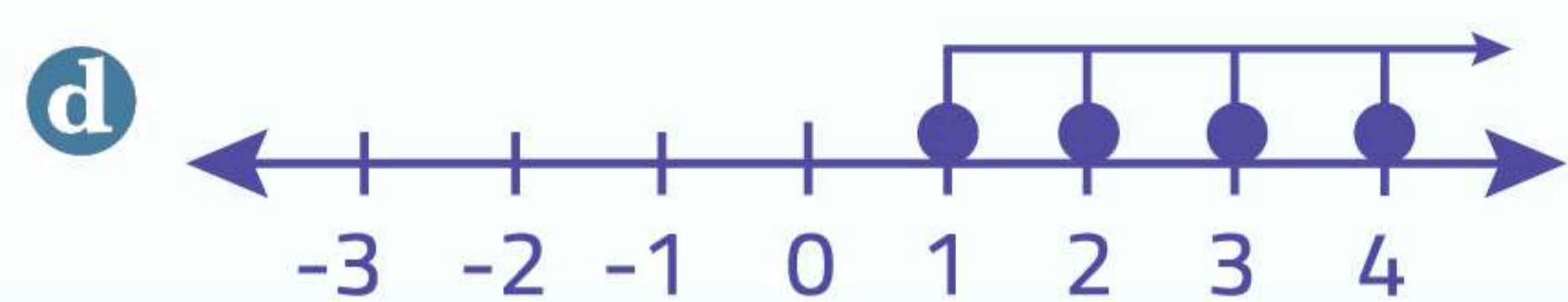
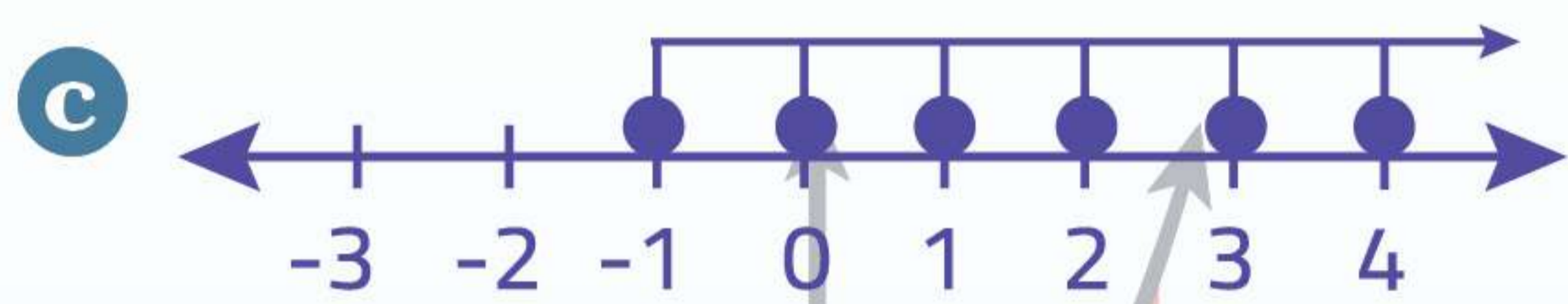
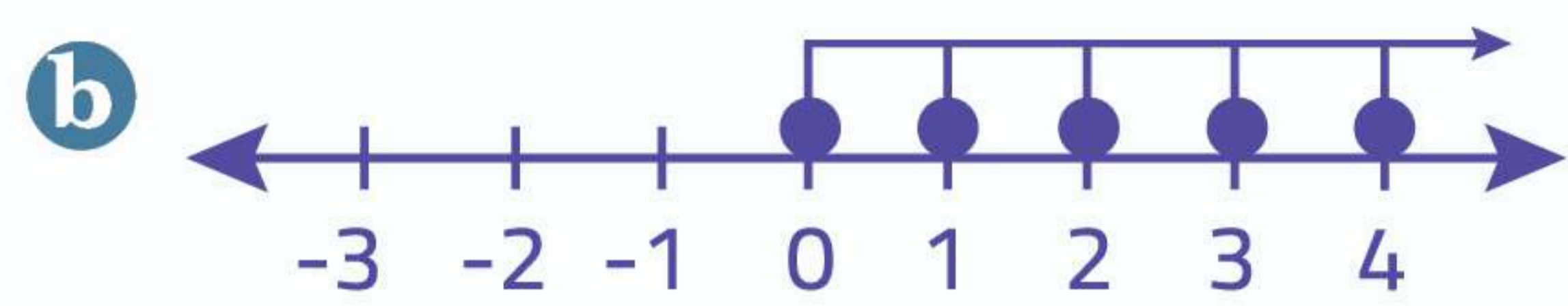
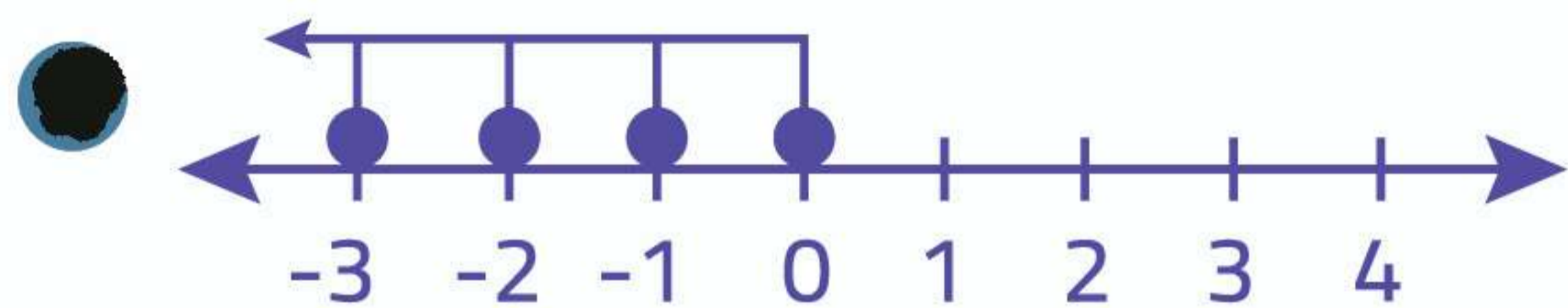


- a -10                       b 0                       c 1                       d 10

35 The inequality  $x \geq -1$  is represented in the set of integers as .....



36 The inequality  $x \geq -1$  is represented in the set of natural as .....



37 A number is no more than 6 can be written as .....

- a   $x > 6$       b   $x < 6$       c   $x \leq 6$       d   $x \geq 6$

38 In the equation :  $x = 4y + 3$ , the dependent variable is .....

- x      b  y      c  3      d  4

39 In the equation :  $9a + 24 = b$ , the independent variable is .....

- a  9      b  a      c  24      d  b

40 In the algebraic equation :  $3m + 1 = n$ , the independent variable is .....

- a  3      b  m      c  1      d  n

41 The algebraic equation of "9 more than a equals b" is .....

- a   $b = a - 9$       b   $a + 9 = b$       c   $b = 9 - a$       d   $b = 9a$

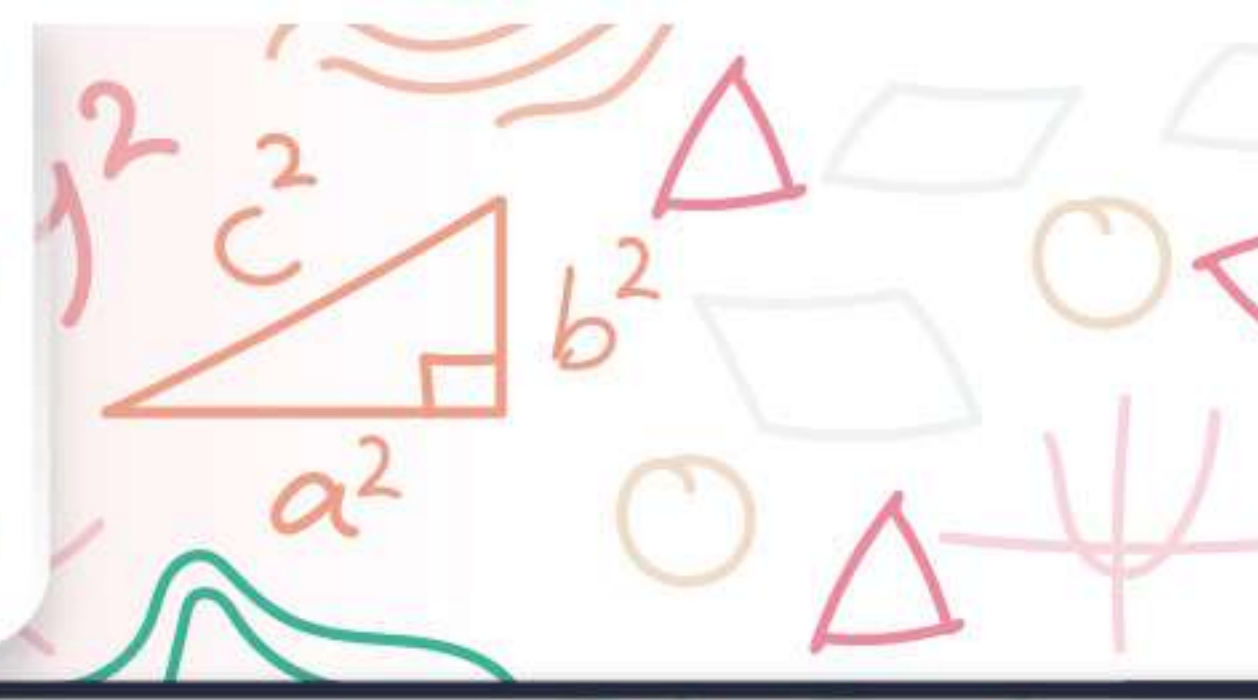
42 "f equals the sum of adding 11 to the product of 8 and e" in equation is .....

- a   $e = 8 + 11f$       b   $e = 11 + 8f$       c   $f = 8 + 11e$       d   $f = 11 + 8e$

43 The word phrase for the equation " $g = 9h$ " is .....

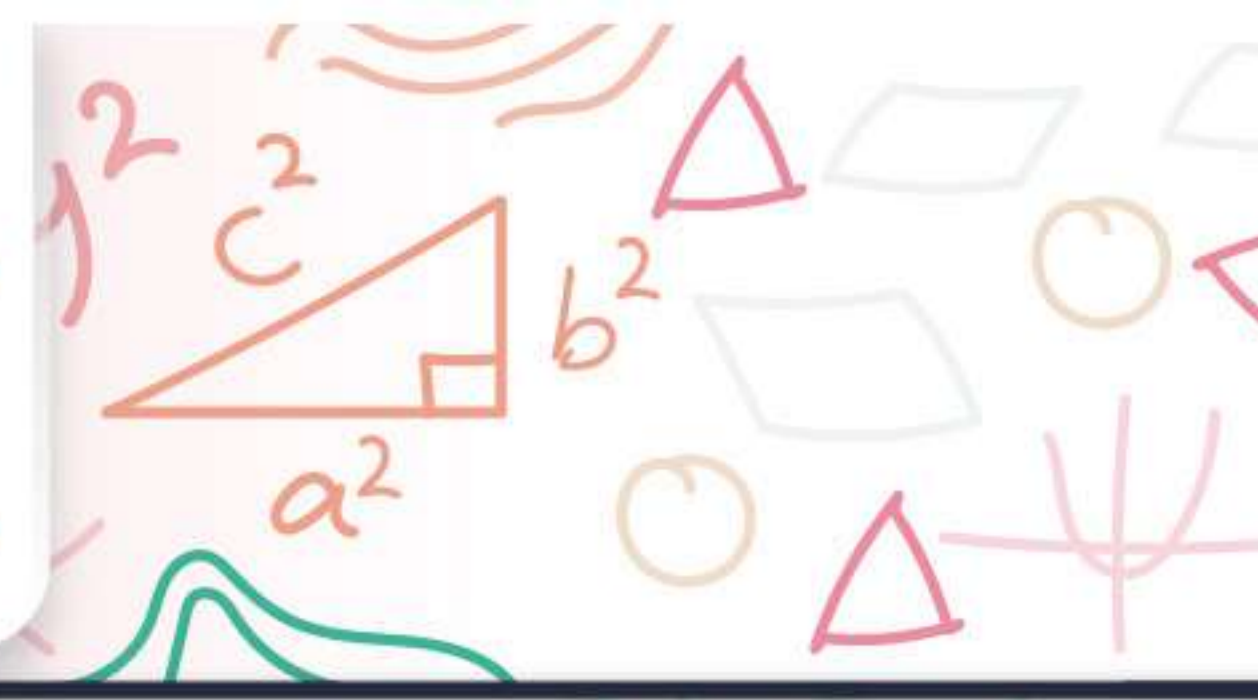
- a  h equals g increased by 9      b  h equals 9 times g  
 g equals 9 times h      d  g equals h increased by 9

- 44 "3 times m increased by 2 equals n" in equation is .....
- a  $3 + m + 2 = n$      b  $3m = 2n$      c  $3m + n = 2$      d  $3m + 2 = n$
- 45 "r is nine times p added to 17" in equation is .....
- a  $17 = 9p + r$      b  $9p = r + 17$      c  $9r = p + 17$      d  $r = 9p + 17$
- 46 In the equation :  $y = 3x$  , if  $x = 5.1$  , then y would be .....
- a 8.1     b 53.1     c 15.3     d 18.3
- 47 The ordered pair which satisfies the equation :  $y = x + 1$  is .....
- a (0 , 2)     b (1 , 1)     c (2 , 1)     d (1 , 2)
- 48 The ordered pair which satisfies the equation :  $y = x + 2$  is .....
- a (0 , 0)     b (1 , 2)     c (2 , 4)     d (3 , 6)
- 49 The ordered pair which satisfies the equation :  $y = 2x + 1$  is .....
- a (1 , 0)     b (2 , 1)     c (0 , 1)     d (1 , 1)
- 50 In the equation :  $y = 3x + 1$  , the ordered pair (2 , a) satisfies the equation , then a = .....
- a 5     b 6     c 7     d 8
- 51 (4 , ..... ) satisfies the rule  $y = 0.5x + 4$
- a 4     b 2     c 6     d 8
- 52 If  $y = 7 + 2x$  , then ( ..... , 11) satisfies the rule
- a 1     b 2     c 3     d 4
- 53 In the equation :  $y = 2x + 1$  , if the input is 4 then the output is .....
- a 6     b 7     c 8     d 9
- 54 In the equation :  $y = x + 1$  , if the output is 1 , then the input is .....
- a 0     b 1     c 2     d 3
- 55 In the rule  $y = x + 4$  , if  $x = 1$  , then y would be .....
- a 3     b 5     c 4     d 2



## QUESTION 2 Complete.

- 1 If the base is 7 and the exponent is 5, then the exponential form of the number is  $7^5$ .
- 2  $7 \times 7 \times 7 \times 7 = 7^4$ .
- 3 Five squared in exponential form is  $5^2$ .
- 4 Three cubed in exponential form is  $3^3$ .
- 5 The first operation in the numerical expression :  $4 + 3 \div (5 - 1^2)$  is **exponent**.
- 6 The first operation you preform in the expression :  $10 \div 5 + (3 - 1)^2$  is **Parantheses or subtract**.
- 7  $13 - 7 + 2^3 \times 3^2 = 13 - 7 + 72 = 6 + 72 = 78$
- 8 The value of the expression :  $4(3x + 1)$  at  $x = 1$  is  $4(4) = 16$
- 9 The value of the expression  $3n - 2$  for  $n = 10$  is  $30 - 2 = 28$
- 10 The value of the expression  $5(2h - 3) + 1$  at  $h = 2.5$  is  $5(5 - 3) + 1 = 11$
- 11 Area of the square whose side length 7 cm in the exponential form is  $7^2$  cm<sup>2</sup>
- 12 Volume of a cube of edge length 3 cm in the exponential form is  $3^3$  cm<sup>3</sup>
- 13 If  $x + 5 = 11$ , then  $x = 11 - 5 = 6$
- 14 If  $m - 2 = 7$ , then  $m + 1 = 9 + 1 = 10$   
 $m = 7 + 2 = 9$
- 15 If  $4y = 12$ , then  $y + 5 = 3 + 5 = 8$   
 $y = 12 \div 4 = 3$
- 16  $17x = 0$ , then  $10x = 10 \times 0 = 0$   
 $x = 0$
- 17 If  $m - 3^2 = 2$ , then  $m = 9 + 2 = 11$



18 If  $\frac{x}{2} = 3$ , then twice  $x = 2(6) = 12$

$x = 2 \times 3 = 6$

19 If  $\frac{1}{4}x = \frac{3}{4}$ , then  $x = 3 \div \frac{1}{4} = 3$

20 If  $y \div 2 = 8$ , then  $\frac{1}{4}y = \frac{1}{4}(16) = 4$

$y = 8 \times 2 = 16$

21 If  $y + y = 16$ , then  $y = 8$

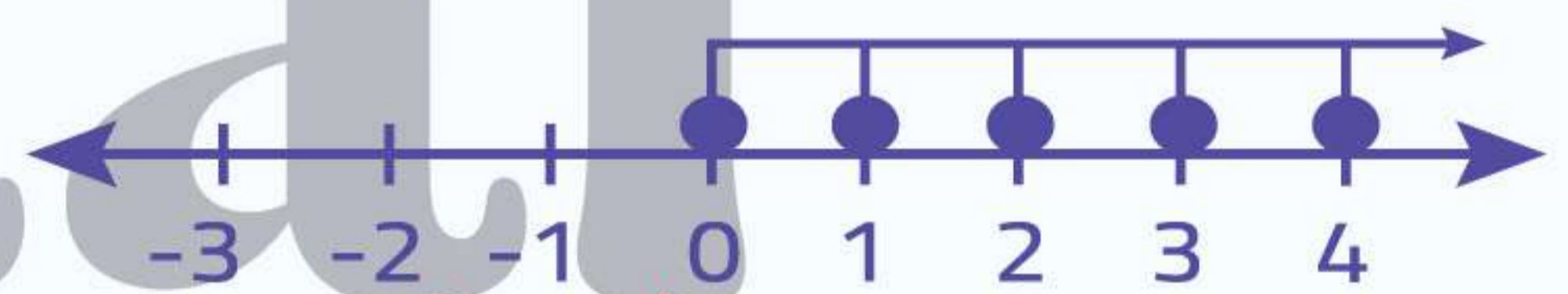
22 The smallest solution of the inequality  $x \geq -4$  is  $-4$

23 The smallest solution of the inequality  $y \geq -1$  is  $-1$

24  $-7$  is a solution of the inequality  $m < -6$

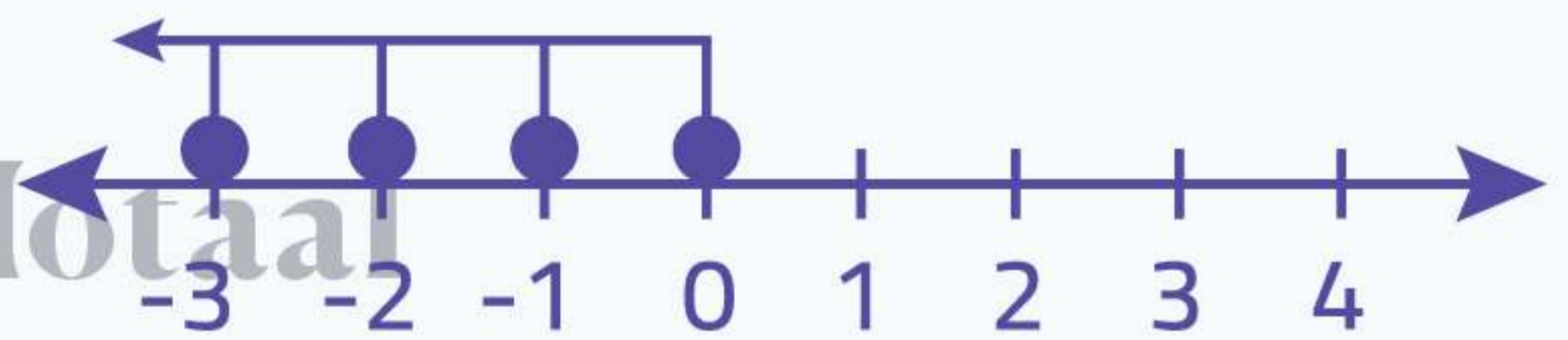
25 The inequality that represented by the opposite number line in the set of natural numbers is  $x \geq 0$

(answers may vary)



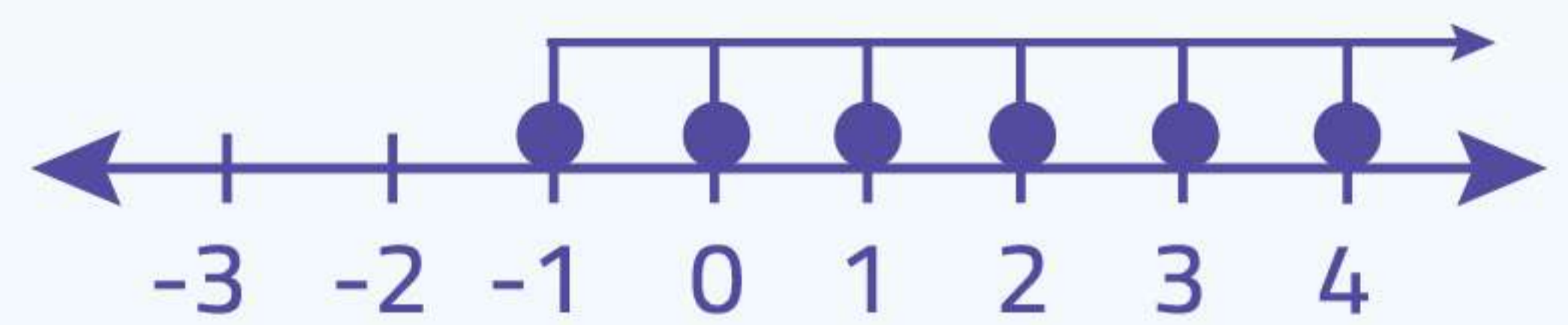
26 The inequality that represented by the opposite number line in the set of integers is  $x \leq 0$

or  $x < 1$



27 The inequality that represented by the opposite number line in the set of integers is  $x \geq -1$

or  $x > -2$



28 A number is no more than 5 in inequality is  $x < 5$

29 "e equals f increased by 2.5" in algebraic equation is  $e = f + 2.5$

30 The verbal phrase for:  $w + 12 = 7$  is  $w$  more than 12 equals 7  
(answers may vary)

31 If the rule is "Add 9", the equation is  $y = x + 9$

so, if  $x$  is 4, then  $y$  would be  $y = 4 + 9 = 13$

$y = 13$



32 The equation which represented by the opposite table is  $y = 2x$

X	0	2	5	7	10
Y	0	4	10	14	20

33 The equation which represented by the opposite table is  $y = 2x + 1$

X	1	2	3	4	8
Y	3	5	7	9	17

34 (4,  $13$ ) satisfies the rule  $y = 3x + 1$

35 (0,  $2$ ) satisfies the rule  $y = \frac{3}{4}x + 2$

36 ( $0$ , 2) satisfies the rule  $y = x + 2$

## QUESTION 3 Essay Questions.

1 If the ticket of entering a car park is 25 L.E. and 10 LE. for each hour you spend.

**First :** Write an algebraic expression to represent the relation between the total cost and the number of hours.

**Second :** What is the cost of spending 5 hours in the park ?

$$1) 25 + 10h$$

$$2) 25 + 10(5) = 25 + 50 = 75 \text{ L.E.}$$

2 Use the order of mathematical operations to simplify :  $40 + 5(3^2 - 7) + 10$

$$= 40 + 5(9 - 7) + 10$$

$$= 40 + 5(2) + 10$$

$$= 40 + 10 + 10$$

$$= 60$$

3 Evaluate the expression :  $2x^2 - (3 \times 4 + 2^3)$  at  $x = 5$

$$\begin{aligned} & 2(5)^2 - (3 \times 4 + 2^3) \\ &= 2(5)^2 - (3 \times 4 + 8) \\ &= 2(5)^2 - (12 + 8) \end{aligned}$$

$$\begin{aligned} &= 2(5)^2 - 20 \\ &= 2 \times 25 - 20 \\ &= 50 - 20 \\ &= 30 \end{aligned}$$

3 Evaluate the expression :  $5x^2 + 8 + (6 - 4) + 2$  at  $x = 3$

$$\begin{aligned} & 5(3)^2 + 8 + (6 - 4) + 2 \\ &= 5(3)^2 + 8 + 2 + 2 \\ &= 5 \times 9 + 8 + 2 + 2 \end{aligned}$$

$$\begin{aligned} &= 45 + 8 + 2 + 2 \\ &= 57 \end{aligned}$$

4 Examine these two expressions :  $3(x + 1)$  and  $2x + x + 3$

**First :** Try to find a value of  $x$  that will make these expressions equal

**Second :** Decide if these two expressions are always equal and if they should be considered equivalent expressions.

	1 <sup>st</sup> expression	2 <sup>nd</sup> expression
1) at $x = 1$	$3(1+1) = 3 \times 2 = 6$	$2(1) + 1 + 3 = 2 + 1 + 3 = 6$
at $x = 3$	$3(3+1) = 3 \times 4 = 12$	$2(3) + 3 + 3 = 6 + 3 + 3 = 12$

2) The two expressions are equivalent

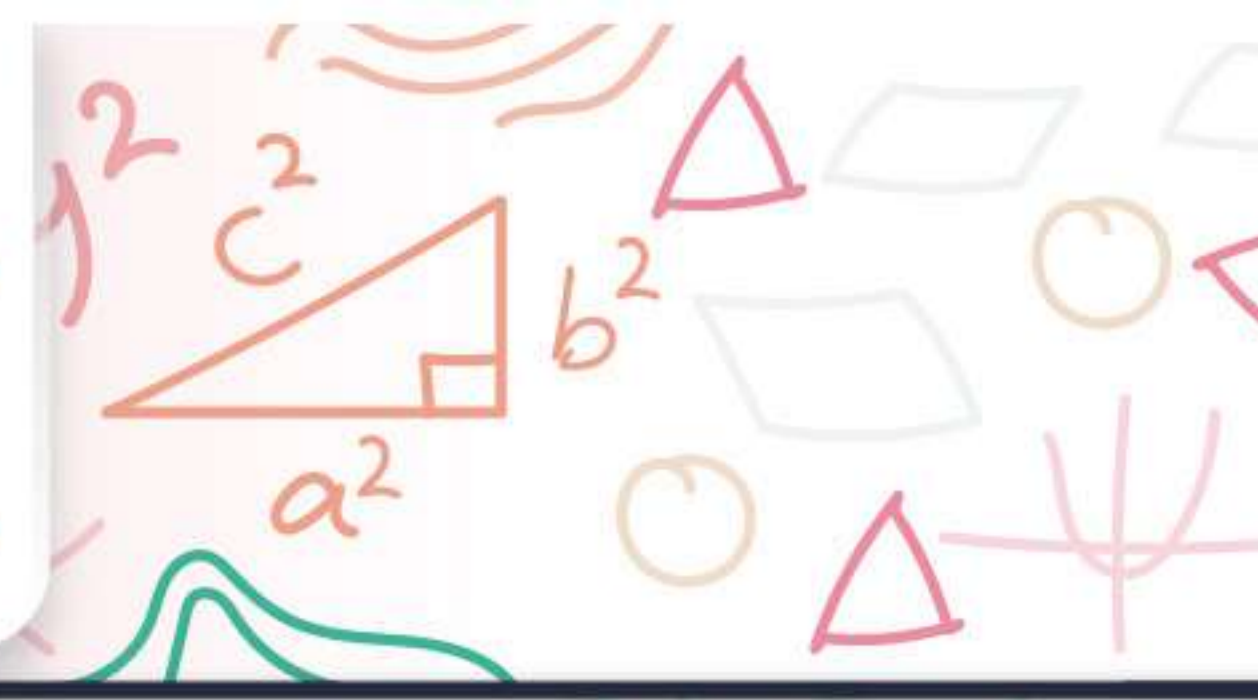
5 Examine these two expressions :  $4(x + 1)$  and  $3x + x$

**First :** Try to find a value for  $x$  that will make the expressions not equal

**Second :** Decide if these two expressions are always equal and if they should be considered equivalent expressions.

	1 <sup>st</sup> expression	2 <sup>nd</sup> expression
1) at $x = 1$	$4(1+1) = 4 \times 2 = 8$	$3(1) + 1 = 3 + 1 = 4$

2) The two expressions are **not** equivalent



6 Solve each of the following equations :

a)  $4t = 20$

b)  $7 + x = 17.8$

c)  $15 - y = 9$

a)  $t = 20 \div 4 = 5$

b)  $x = 5$

b)  $x = 17.8 - 7 = 10.8$

b)  $x = 10.8$

c)  $y = 15 - 9 = 6$

c)  $y = 6$

7 Name 3 solutions of each inequality. Then graph the inequality on a number line in the set of integers.

a)  $x \geq -2$

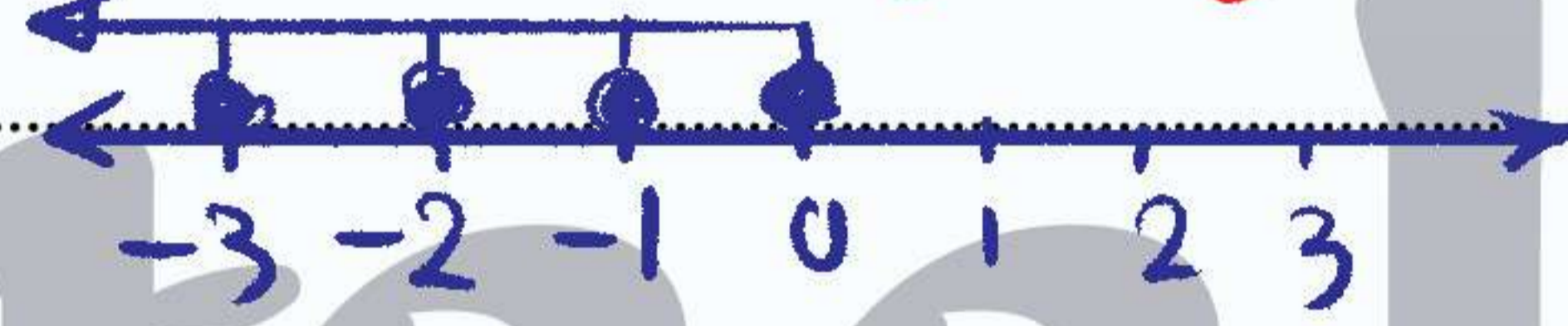
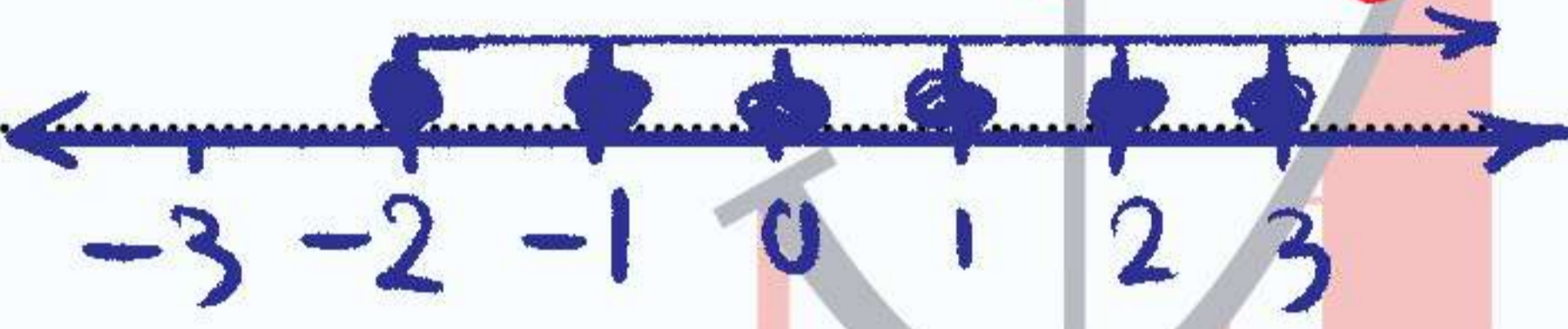
b)  $y < 1$

$x = -2, -1 \text{ or } 1$

$y = 0, -1 \text{ or } -2$

Answers may vary

Answers may vary



8 Write a verbal phrase for each of the following:

a)  $x = 2y$

b)  $3c + 2 = d$

a)  $x$  equals twice  $y$

b) The sum of three times a number  $c$  and 2 equals  $d$ .

(Answers may vary)

9 Write an equation use the variables  $x$  and  $y$ , where  $x$  is the independent

Write the equation "multiply by 8 and add 3", substitute  $x = \frac{1}{4}$  to evaluate  $y$ .

$y = 8x + 3$

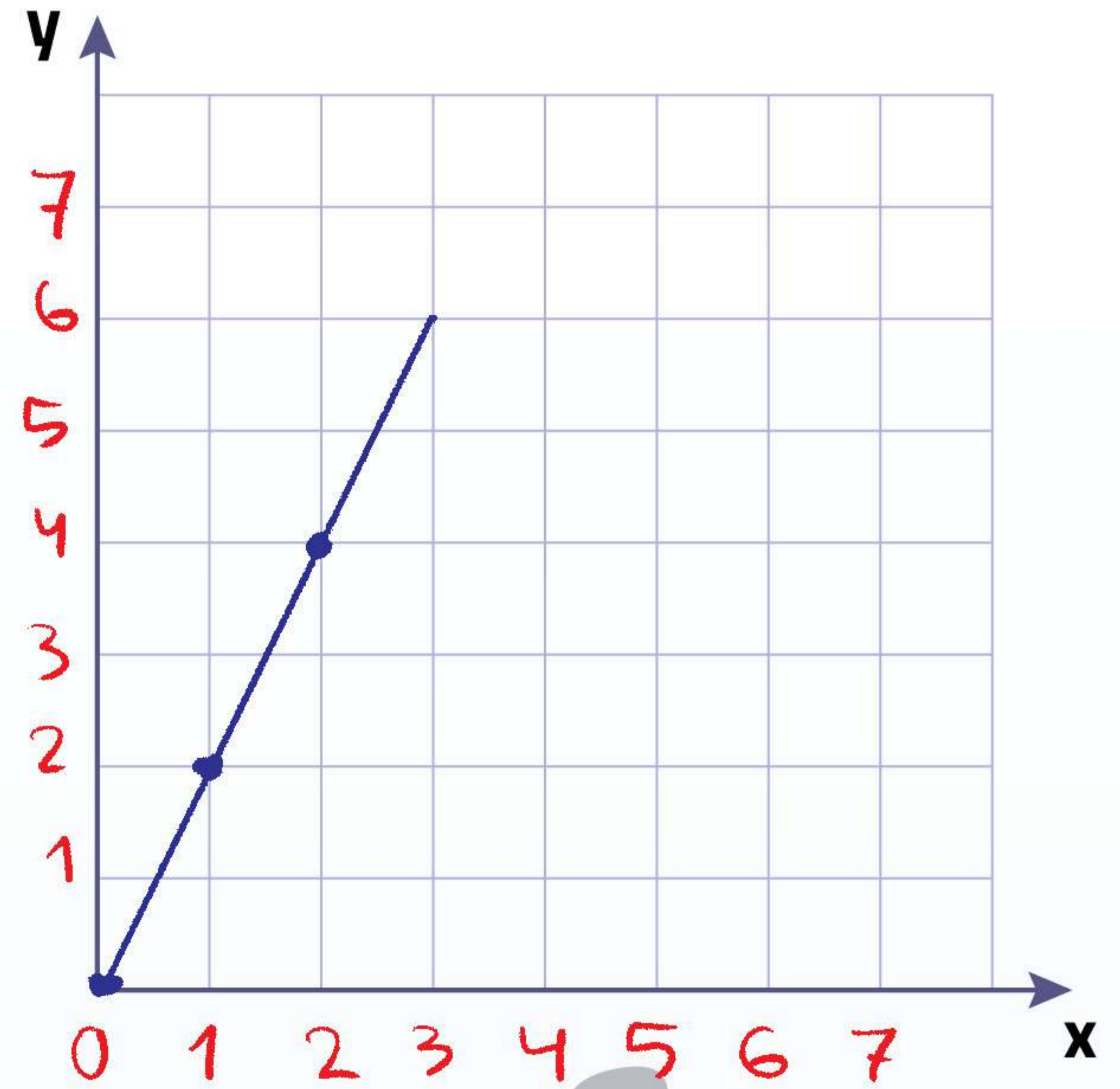
at  $x = \frac{1}{4}$ ,  $y = 8(\frac{1}{4}) + 3 = 5$ , then  $y = 5$

10 Complete the following table according to the equation :  $y = 2x + 1$

X	0	2	5	7	15
Y	1	5	11	15	31

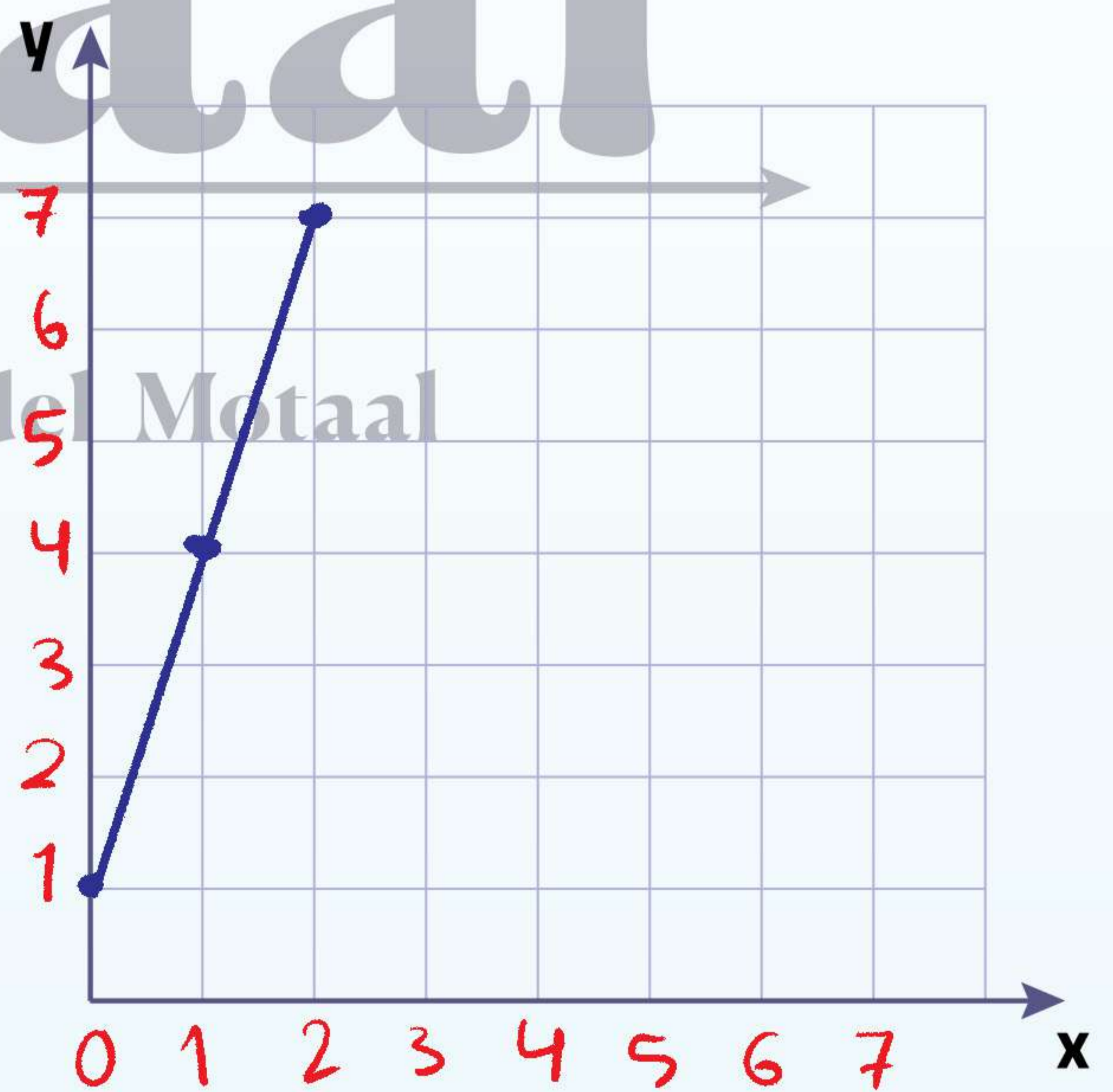
11 Complete the following table according to the equation :  $y = 2x$   
, then make the graph.

x	0	1	2
y	0	2	4
(x, y)	(0,0)	(1,2)	(2,4)



12 Complete the following table according to the equation :  $y = 3x + 1$   
, then make the graph.

x	0	1	2
y	1	4	7
(x, y)	(0,1)	(1,4)	(2,7)



Mr Ahmed Abdel Motaal

With My Best Wishes 😊

## Unit 4

## Lesson

## 1

### Solving Equations

في الدرس دة هنتعلم ازاى نحل المعادلة (Equation) و دة معناها ازاى نصل على قيمة الـ  $x$  أو الحرف

Find The value of The variable (Solve equation)

دة شكل السؤال طيب تعال نشوف شكل الكلو

الموضوع ببساطة هنععمل عكس المطلوب

[A]  $x + 7 = 10$

$$x = 10 - 7 = 3$$

مكتوب +

نعمل -

[B]  $a - 6 = 5$

$$a = 5 + 6 = 11$$

مكتوب -

نعمل +

[C]  $6m = 18$

$$m = 18 \div 6 = 3$$

دى معناها  $6 \times m$

يبقى نعمل  $\div$

[D]  $\frac{n}{5} = 3$

$$n = 3 \times 5 = 15$$

مكتوب  $\div$

نعمل  $\times$

[E]  $\frac{1}{4}t = 2$

$$t = 2 \times 4 = 8$$

$\frac{1}{4} \times t$  معناها  $\frac{t}{4}$

يبقى نعمل  $\times$



شوية Complete من اللى  
قلبك يبيها

(1) If  $x + 5 = 7$  then  $x = \dots$

(2) If  $x + 2 = 10$  then  $5x = \dots$

(3) If  $6y = 18$  then  $5y = \dots$

(4) If  $\frac{x}{3} = 4$  then  $2x = \dots$

(5) If  $y + y = 16$  then  $y = \dots$  and  $2y = \dots$

(6) If  $x + x + x = 18$  then  $x = \dots$

(7) If  $x - 1 = 3$  then  $\frac{1}{2}x = \dots$

(8) If  $x + 4 = 6$  then  $\frac{1}{2}x = \dots$

(9) If  $\frac{x}{2} = 5$  then  $x - 10 = \dots$



\* الكك بالقلوب \*



(6) 0

(6) 6

(3) 15

(8) 1

(5) 8, 16

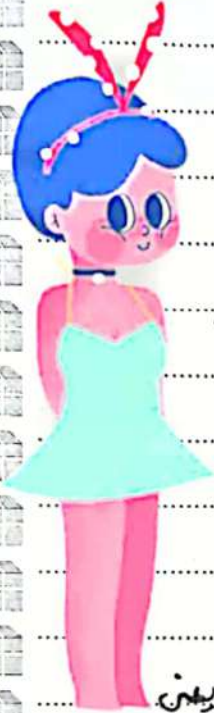
(2) 40

(7) 2

(4) 24

(1) 2

بص يا حبيب بابا وماما الدرسي دة من سهولته  
 هتلاقى بعد شوية القلم بيحل لوحده  
 بس لازم في الأول نفرق بين شوية حاجات أهمي



دى معناها الأعداد الأكبر من 3 يعني

4, 5, 6, 7, ...

$$x > 3$$

more than

دى معناها ال 3 و الأعداد الأكبر من 3

3, 4, 5, 6, ...

$$x \geq 3$$

more than or equal

دى معناها الأعداد الأصغر من 3 يعني

2, 1, 0, -1, -2, ...

$$x < 3$$

less than

دى معناها ال 3 و الأعداد الأصغر من 3 يعني

3, 2, 1, 0, -1, -2, ...

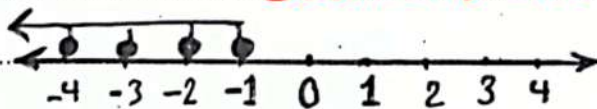
$$x \leq 3$$

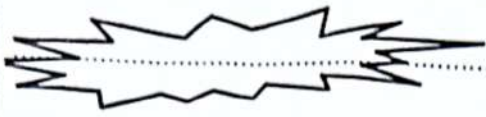
less than  
or equal

ex1 Name 3 solutions of each inequality  
 Then graph on number line in the set  
 of integers

$$[A] \quad C < 0$$

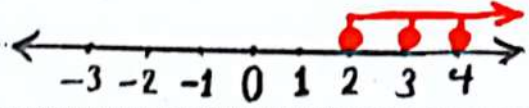
Solutions are -1, -2, -3





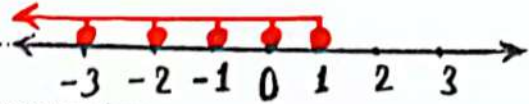
[B]  $x \geq 2$

$x = 2, 3, \dots$



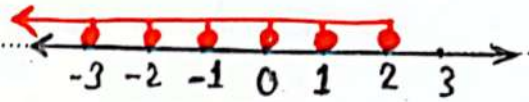
[C]  $x < 2$

$x = 1, 0, -1, \dots$



[D]  $x \leq 2$

$x = 2, 1, 0, \dots$



مجموعة كلوية

⚠ Counting numbers =  $\{1, 2, 3, 4, \dots\}$

ممكن تعبیر عنها كدة

$x > 0$  or  $x \geq 1$



⚠ Natural numbers =  $\{0, 1, 2, 3, \dots\}$

ممكن تعبیر عنها كدة

$x \geq 0$  or  $x > -1$

⚠ Positive integers =  $\{1, 2, 3, \dots\}$

ممكن تعبیر عنها كدة

$x > 0$  or  $x \geq 1$

زى ال Counting

⚠ Negative integers =  $\{-1, -2, -3, \dots\}$

$x < 0$  or  $x \leq -1$



الجرور



ex2: Name 3 solutions of each inequality in the set of rational numbers.

الفرق بين السؤالين والى فات ان لما ممكن يكتب Fractions

①  $x \geq 1$

Solutions 1,  $1\frac{1}{2}$ , 2,  $2\frac{1}{4}$ , ...

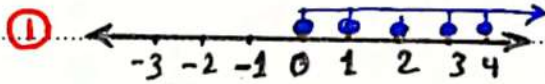
②  $m \geq -2$

Solutions -2, -1,  $-\frac{1}{2}$ , 0,  $\frac{1}{2}$ , ...

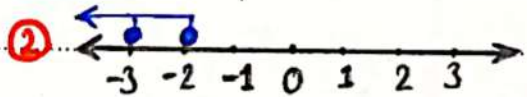
③  $y < -3$

Solutions -4,  $-4\frac{1}{2}$ , -5,  $-5\frac{1}{3}$ , ...

ex3: write suitable inequality in set of integers.



$x \geq 0$        $x > -1$   
الكبير اصبح



$x \leq -2$        $x < -1$



ex4: سؤال للشطار وبس

A number is no more than 10 can be written as

$n \leq 10$

$n < 10$

$n > 10$

$n \geq 10$

حل وصور وابعت لي



الجرور

between Dependent and  
independent variables

Perimeter of square = Side  $\times$  4

$$P = S \times 4$$

كل ما نعطيه قيمة لـ S بنناجها تتغير قيمة الـ P عندها

بين لو الـ S = 1 يبقى الـ P = 4

لو الـ S = 2 يبقى الـ P = 8

لو الـ S = 3 يبقى الـ P = 12



كرة

الـ S هتسمى متغير مستقل

الـ P الـ الـ هو الناتج الـ الـ يطلق هتسمى متغير تابع

Equation	Dependent الحرف الـ الـ لوحد هـ	Independent الحرف الـ الـ معاه أرقام
$b = 2a$	b	a
$m = 3 + n$	m	n
$r = p + 81$	r	p
$L = 3k + 9$	L	k
$y = 18 + x$	y	x
$d = 6 + 6c$	d	c
$14 + 2e = f$	f	e
$7y + 3 = x$	x	y



# Unit 5

Lessons  
1-2

ex write each verbal phrase  
an algebraic equation.

① 7 more than  $x$  equals  $y$   
 $7 + x = y$

② 33 more than  $s$  equals  $t$   
 $33 + s = t$

③  $g$  increased by 10 equals  $e$   
 $g + 10 = e$

④  $x$  equals The sum of Sixty one and  $y$   
 $x = 61 + y$

⑤ Five times  $C$  equals  $d$   
 $5 \times C = d$

⑥  $k$  equals The product of four and  $L$   
 $k = 4 \times L$

⑦  $m$  equals twice  $n$  increased by 25  
 $m = 2 \times (n + 25)$

⑧  $S$  equals The product of 8 and  $r$  added to 42  
 $S = 8 \times (r + 42)$



COOL

write verbal phrase

For each equations:

(A)  $L = 20p$       مفقش + ولا - بقى  $x$   
 L equals The product of  
 20 and p



(B)  $X = 4 + y$   
 X equals The sum of 4 and y

(C)  $53 + 6b = a$   
 The sum of 53 and 6 times b  
 equals a

(D)  $m = 11n + 1$   
 m equals The sum of 1 and  
 11 times n

(E)  $C = 8 + 6d$   
 C equals 8 more than 6 times d

صو وابت  
 4 times L added to 7 equals k



الجرور

أولاً نقرأ العنوان أنا إيدي وجعني  
وأنا بكتبه

المهدف من الدرس دة

1- إزاي نكتب العلاقة بين  $x$  و  $y$  و احسب  
قيمة  $x$  لو إراداني  $y$  أو العكس

2- إزاي نرسم العلاقة بين  $x$  و  $y$  بالرسم البياني

ex.1 Evaluate for  $x = 2$

①  $y = 2x \longrightarrow y = 2 \times 2 = 4$

②  $y = x + 3 \longrightarrow y = 2 + 3 = 5$

③  $y = x + \frac{1}{4} \longrightarrow y = 2 + \frac{1}{4} = 2\frac{1}{4}$

④  $y = 5x + 35 \longrightarrow y = 5 \times 2 + 35 = 45$



ex.2 write an equation.  $x$  is independent  
variable to evaluate  $y$ .

① The equation "Multiply by 5" substitute

$x = 7$

$y = 5x$

$y = 5 \times 7 = 35$

بسن كدة



الجرور

② The equation "Add 1" Substitute if  $x = 5.2$

$$y = x + 1$$

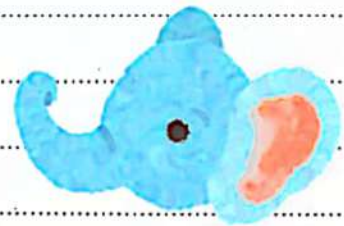
$$y = 5.2 + 1 = 6.2$$

③ The equation "Multiply by 4 and add 3"  
Substitute if  $x = 3.3$

$$y = 4x + 3$$

$$y = 4 \times 3.3 + 3$$

$$y = 13.2 + 3 = 16.3$$



④ The equation "Multiply by 5 and add 4.1"  
Substitute if  $x = 8$

$$y = 5x + 4.1$$

$$y = 5 \times 8 + 4.1$$

$$y = 40 + 4.1 = 44.1$$

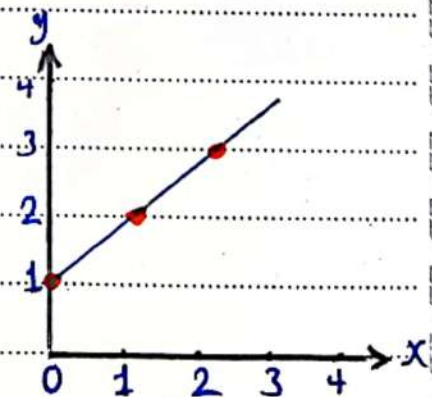


✍

ex 3 Complete tables, then make graphs

(1) The equation:  $y = x + 1$

x	0	1	2
y	1	2	3
(x,y)	(0,1)	(1,2)	(2,3)

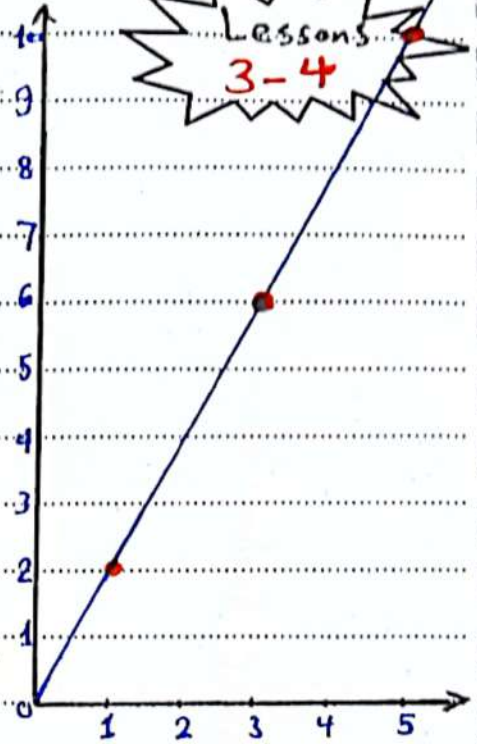


# Unit 5

# Lessons 3-4

(2) The equation:  $y = 2x$

X	1	3	5
y	2	6	10
(x, y)	(1, 2)	(3, 6)	(5, 10)



(3) The equation  $y = 2x + 1$

X	0	2	3	5
y	1	5	7	11
(x, y)	(0, 1)	(2, 5)	(3, 7)	(5, 11)

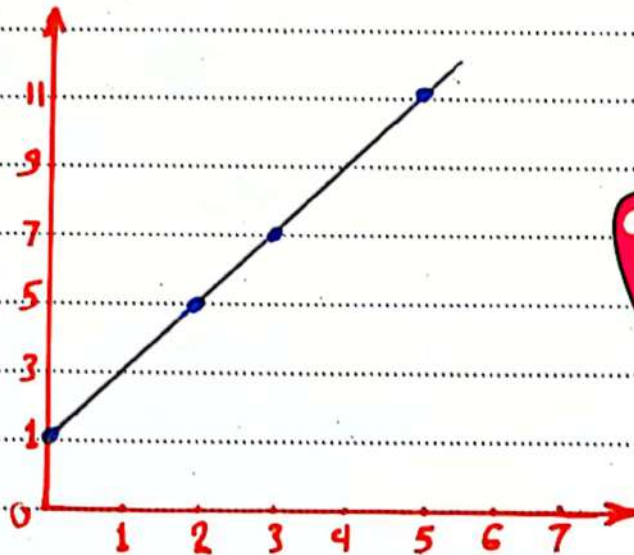
$x=0 \quad y=2 \times 0 + 1 = 1$

$x=2 \quad y=2 \times 2 + 1 = 5$

$x=3 \quad y=2 \times 3 + 1 = 7$

$x=5 \quad y=2 \times 5 + 1 = 11$

خذ بالاك قسمة  
odd  
عشان اوصول  
لل 11



(4) Use variables  $x$  and  $y$  to write the equation for each table



A

$x$	0	4	8	12
$y$	4	8	12	16

Equation is:

$$y = x + 4$$

B

$x$	12	20	8	4
$y$	7	11	5	3

Equation is:

$$y = \frac{1}{2}x + 1$$

بیب  $x \frac{1}{2}$  و نژود علیر 1



C.

$x$	0	2	3
$y$	4	$a$	7

Equation is

$$y = x + 4$$

بس خلاص

$$a = 2 + 4 = 6$$



THANK

U

